

Innovation in the Transformation of the City

Synthesis Report

Series of 24 debates
promoted by the
Porto Innovation Hub

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Porto.

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Series of 24 debates
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Porto Innovation Hub





“The citizen and his challenges are at the centre of innovation and transformation of the city, making it a living laboratory.”

Rui Moreira

Mayor of Porto

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Introduction

During three months, between December 2016 and February 2017, the Porto Innovation Hub was the chosen space to consider and discuss the subject “Innovation in the transformation of the city”. This discussion took place in a structured way, thinking problems and solutions outside of the box, embracing risk and abandoning comfort zones. During a three-month period, the most varied aspects were discussed throughout 24 public debates in which 146 guests were involved, between moderators and speakers, and more than 2200 participants in the debates and in various parallel initiatives.

The debates were initially planned by a Programme Committee chaired by Prof. José Carlos Marques dos Santos ¹ and took place in sessions that were organized around four cross-cutting themes: (1) Living in Society, (2) Drawing the City, (3) Approaching Sustainability and (4) Transforming the Economy.

In this Report, I have tried to reproduce all the contributions made during the twenty-four debates, including those that were encountered during the discussion period with the participating public. I also included the contributions that were given to me after the sessions. All the contributions are set in the text as complete and factual as possible.

It is Porto’s City Council intention that this initiative of twenty-four public debates results in a document that can sustain an innovation ² strategy for the city in the medium and long term, in which the Municipality can build programs and actions that contribute to the Porto that we want to have in the future. The purpose of this Report is to guide the process of transformation and modernization of the city through innovation and ‘co-creation’ ³.

The series of debates that this document summarizes is part of the work that has been carried out by Porto’s City Council Directorate of Innovation and Environment over

1 The Programme Committee has also integrated António M. Costa, Gonçalo Medeiros, João Paulo Cunha, Joel Cleto, Jorge Gonçalves, José Carlos Caldeira, Maria de Lurdes Fernandes, Rui Mendonça and Sónia Meireles.

2 Innovation is the process in which value is created (Economic, social, cultural ...) from knowledge. Often, innovation is defined as ‘profitable change’. In other words, to innovate is to transform into value the knowledge and skills of people and organizations. The creation of value in a society generates job opportunities, employment and the improvement of living conditions for all. Innovation which is essentially a process of social nature, since it doesn’t exist without the participation of people. It is a powerful engine of development.

3 ‘Co-creation’, means the form of innovation that occurs when people outside an entity, such as suppliers, Business partners and / or customers, associate with the business, product or service by adding value, content or marketing and receiving in return benefits for their contribution, whether by accessing specially configured products or by promoting their ideas. (Cf. Wikipedia. Wikipedia itself is one of the best examples of co-creation).

the last few years, following the innovation strategy that was incorporated into the election manifesto presented to the city in 2013.

This work aims on the development of a strategy of innovation for the city of Porto, according to three axes:

- (1) Placing the Municipality as an aggregator of wills — an aggregator of the existing innovation ecosystem in the city — To leverage it more dynamically and effectively and to project it not only in its economic dimensions of opportunity and employment but also social and culturally. In this context, the creation of the Scale-Up Porto initiative, involving the Municipality and a number of city institutions, was an important step to ensure the sustainability of the existing innovation system.
- (2) To raise awareness of this ecosystem to all inhabitants of Porto, inviting them to inviting them to participate in the reflection and definition of their future evolution through an identification of problems, the resolution of which would be the responsibility of invited and selected startups. In the first phase of this initiative, municipalities have identified more than three hundred problems and more than one hundred companies responded to the challenge and there are currently four of these problems in the process of being resolved.
- (3) Creation of the Porto Innovation Hub to bring the Innovation factor to a closer plan to the citizens inviting them to discuss the many ways innovation can and should touch the lives of the people and the city's institutions, ensuring quality of life and job opportunities for residents and visitors, as well as increased quality of the services provided by the Municipality in a progressive sustainability framework.

The *Porto Innovation Hub* is thus an instrument and a space open to all potential innovation agents in the city, including universities, schools, public institutions, foundations, companies and other entities and people and also is receptive to host meetings, debates and exhibitions that contribute to the enhancement of the innovation in the city.

In this space, it is also worth highlighting a set of initiatives already planned and that aimed at a younger public, in order to sensitize children and the whole school community to the importance of innovation ⁴.

It should also be noted that this initiative is an invitation that the Municipality does to all people – to the anonymous citizens in a special way, since they are the true axis of transformation of the city – so that they can visit this space, participate actively in this process and be a part of some of the conduction of the future of the city. The

4 As an example, on 2 of December 2016 an interactive exhibition on the City's Park was inaugurated in this space; On March 24 of 2017 an exhibition about the Sea and its importance in the context of the city was inaugurated.

Porto Innovation Hub intends to present the strength of the innovative Porto, the cosmopolitan Porto and the Porto of the future, aspects still unknown to many.

Having lived and worked outside the city and the country for many years and over several periods, I am delighted to return contacting to the exceptional level of knowledge, expertise and experience that exists in the city. However, I am even more delighted to see the generosity and the willingness that so many people have manifested in applying knowledge, competence and experience in a sustained reflection on the future of the city, simultaneously creating unique conditions so that Porto can establish itself as a developed, inclusive, creative and cosmopolitan city.

So it was with particular pleasure and a sense of citizenship that I accepted the honorable invitation that was made to me to be the Editor of this important initiative.

I congratulate Porto's City Council Directorate of Innovation and Environment in the person of the Councilor Filipe Araújo, for the ambition of underlying this series of debates, and also congratulate the production team Paulo Calçada, Margarida Campolargo, Andreia Faria and Catarina Pires, by the impeccable way in which the debates were planned and produced, as well as for their coloboração provided. I thank Ana Maria Ramalheira, Director of the Master's Degree in Languages and Business Relations of the University of Aveiro and Director of *RUA-L Revista da Universidade de Aveiro – Letras*, as well as Teresa Pires, an IT specialist, to her generosity of having contributed to the improvement of the linguistic correctness, intelligibility and presentation of this text.

Porto, April 5, 2017

Editor

José António Ribera Salcedo, Ph.D.

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Observations

1. In this report, I tried to reproduce all the contributions made during the twenty-four debates, including those that arouse in the discussion period with the participating public. I also include the contributions that were given to me after the sittings. The contributions are found in the text as completely and factually as possible ⁵.
2. The Report is structured in accordance with the course of the considerations that have been presented and discussed throughout the discussions. Each consideration — along with its context, whenever it has been exposed or referred to — has its paragraph. The relative independence you may notice sometimes between paragraphs, reflects how ideas, conversations and debates were flowing between participants. In other words, the granularity that characterizes the paragraphs is similar to the granularity that characterized the debates, although the Report is not a reproduction *ipsis verbis* of them, of course, since their writing has required a substantial work of analysis and synthesis of all contributions.
3. This Report intends to fulfill a specific function: provide the basis for the creation of a Strategic Innovation Plan and/or Innovation Manifesto for the city of Porto, that includes a set of actions to be taken in a short, medium and long term. In this context, it is expected that several work teams will use it to extract the elements that they consider most relevant for the preparation of the so-called Plan and/or Manifesto. This work must begin by identifying the contents released in this Report that may be more relevant for each intended effect.
To help ease this task, I chose to organize the drafting of each debate into two sections, 'Summary' and 'Suggestions'. In the section 'Summary' I describe the content of the debate, looking forward to organizing and distil – by processes of analysis and synthesis – the considerations that have been presented and debated. In the section 'Suggestions' I describe the suggestions that emanated during the debate, either explicitly or implicitly, and that Should be given special attention by Porto's City Council or other identities, properly identified.
Within each section, each paragraph has been sequentially numbered and the numbering is independent between sections. Thus the reference to any suggestion or consideration has been made is clear and easy to use.

5 In order to not interfere with the participants' contributions in the discussions, the Editor's contributions are limited to footnotes.

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Innovation in the Transformation of the City

Living in Society

01

Talk 07/12/2016



Innovative Porto

Moderator

Paulo Calçada

Speaker

José Marques dos Santos



Motivation

Explore the past to understand the present and shape the future.

A. Summary

- A.1 This series of twenty-four debates is oriented to encourage people to value the change of attitudes in order to create (more) value, comfort, and security for their city life. The debates involve speakers from a wide range of knowledge fields given that multidisciplinary perspective is fundamental to consider sustainably the numerous ways in which innovation can be used as a factor in transforming the city and improving people's living conditions.
- A.2 Innovation takes work and forces you to think differently, to do new things and face challenges. Innovation is only possible when people leave their comfort zone. In the Municipality's context, to innovate is also to do something different that contributes to creating new attitudes in Porto's citizens of all ages. This will create (more) value and, with this value, new opportunities may be created. This change of attitude is not only useful in the city's life, but also in every persons and entities life.
- A.3 Porto is rich in innovative initiatives. For example, Porto played a key role in the country's electrification, because it was in this city that were the most capable teams to carry out the design and construction of the very first hydroelectric dams in the course of some of the rivers in the north of the country and the corresponding distribution lines of electrical energy. Moreover, the design and development of electrical insulators in ceramic materials, essential components for the distribution of electricity through high-voltage power lines, were initially done by Prof. Correia de Barros at University of Porto and at the company *Electrocerâmica do Candal* a company located on the outskirts of the city. The tramways ⁶ are just another example of innovation in the country's electrification, such as a natural evolution of rail-freight transport, with animal-drawn, that existed in certain areas of the city until then ⁷.
- A.4 In the past two decades, the city has been rich in innovation. A recent example is the communications network «Associação Porto Digital», which resulted from a joint initiative of the City Council, the University of Porto, the Porto Metro system and the AEP. Entirely executed with excellent optical fiber transmission capacity (10 Gb/s), the network connects most of the buildings in the city, for instance, all universities, all buildings of the City Hall, all hospitals and schools such as primary-schools and high-schools, among others. This equipment, as well as the installation of numerous wifi hotspots around the city, allows anyone to connect to the Internet. In 2016 alone, the network in question had more than one million users.

6 In the city of Porto, in September 1895, the first electric trams service for public passenger transport was inaugurated. It was the first service of its kind throughout the Iberian Peninsula.

7 This kind of transportation was private.

- A.5 Another example of innovation is The Science and Technology Park of the University of Porto (UPTEC). The UPTEC is a business incubator with four thematic centres located at different parts of the city. It has welcomed more than 300 business projects – some of which have already become international companies with rapid growth and high valorisation — and has already created more than 2000 direct jobs. It is noteworthy that Porto is currently the city in the country where most startups have been created.
- A.6 Initiatives such as those at UPTEC also aim to form a new generation of entrepreneurs characterized by innovative, future-oriented attitudes and with internationally anchored projects.
- A.7 The creation of the Institute for Innovations and Health Research (I3S) is another excellent example of innovation. Currently welcoming about 800 researchers, this Institute is the result of a consortium of the University of Porto and three other Institutes: Institute for Molecular and Cell Biology (IBMC), the Institute of Molecular Pathology and Immunology of the University of Porto (IPATIMUP) and the Institute for Biomedical Engineering (INEB). As a result of the establishment of this consortium, I3S has scaled-up and has become an international reference regarding research and healthcare innovation.
- A.8 In the context of The Polytechnic Institute of Porto, the creation of Porto Design Factory is another example of innovation in the city. Porto Design Factory is an experimental platform of “co-creation” of innovative ideas that come from an interdisciplinary educational project and has been another catalyst for new ideas and attitudes in the city
- A.9 Porto has also propitiated the creation and development of companies that are already an international reference, among which we highlight Veniam and Farfetch. Veniam has created and developed communications networks from moving vehicles in the city⁸, offering solutions that already have been put in practice in Porto and Singapore, and having others in progress. Farfetch, which has over a thousand employees, has already exceeded business valuation of one billion dollars. Both companies maintain their development centres in Porto.
- A.10 The best way to stimulate innovation is to provide conditions for free and creative interactions in diverse cultural environments. Thus, the attractiveness of foreign researchers and students to the academic institutions of the city is of paramount importance. Per year, there are more than 10,000 international students of more than 100 nationalities living in the city and many of them stay for long periods of

time, some even permanently, after completing their studies. These young people become authentic ambassadors of the city and of the country, helping to spread a fresh vision of the city, more open, more international, more qualified, more developed and more cosmopolitan

- A.11 Software platforms for talent retention strategy in the city and in the region have also emerged, focusing on the many foreign students allocated to the various institutions of higher education in Porto. These platforms are important to reinforce the perception that the city and region are rich in talent, a perception that helps to attract companies to the region and to strengthen the existing company's workforces.
- A.12 The best way to transfer technology from an university or R & D institution to a company is to transfer to the company people who have been involved in the creation of this technology
- A.13 Protection of intellectual property is important. The registration of patents, the development of trade secrets ⁹, and other processes associated with intellectual property are essential to ensure that the authors or inventors of innovation would be its main beneficiaries.
- A.14 In national culture, the verb "to fail" is still associated with a significant negative connotation. This stigma, however, relies on twisted perceptions, because failure is an essential step in the learning process. Strictly speaking, 'failing' merely means having walked a path that has led to an unexpected result. Understanding the reasons for this failure — including the reasons for why choosing the path that led to the unexpected result — is essential for it to be corrected. Thus those who fail become more confident, gaining a higher resilience towards obstacles and difficulties and develop an especially valuable ¹⁰ knowledge. In fact, people only learn through experience and only acquire experience through actions that fail the goals outlined. Thus, the ability to attract a substantial number of foreign students is an excellent opportunity to change tendentially harmful cultural behaviors and mannerisms, which helps to make people more confident, more open in taking risks and more able to consider situations for better-informed perspectives.
- A.15 In Portugal, it is important to prevent so many young people from dropping out of high-school. If it is considered that the best training of the process leading to effective learning occurs at a young age, then development of the willing to learn,

9 Literal translation of «trade secrets».

10 A few years ago, I attended a workshop at the MIT Media Lab in Boston where Marvin Minsky, one of the laboratory's founders, said that if one day he ever wanted to choose people to create a new, especially creative laboratory, he would choose only people who had failed at least once in their lives, because these people are always the ones with that have the most valuable knowledge.

of questioning, of self-confidence, and of resilience must be encouraged from an early age. It is essential to stimulate behavioral attitudes since pre-primary school regarding the ability to learn and question, to be able to innovate.

A.16 The so-called hard skills are essential, but they are only a small part of the skills that each person should have nowadays. As it has been demonstrated by numerous institutions, including the University of Singapore, the development of soft skills is absolutely essential for anyone that wants to harmoniously integrate into a society and create value through their work.

B. Suggestions

- B.1** Strengthen the proper functioning of the «Porto Digital» optic fiber network, including Wi-Fi hotspots, to improve the conditions for Internet access as well as to allow new digital services in the city and in the region.
- B.2** Some of the city's R & D institutions need to grow and increase to have a greater voice and earn more credibility nationally and, above all, internationally. In this regard, I3S is an excellent example, although there is still a lot of integration work to be done. Efforts must be made to stimulate the consolidation of other institutions, ensuring an increase in critical mass and a deep long-term insight.
- B.3** To stimulate innovation, it is essential to promote the integration of technical areas with social and leisure areas, namely science, arts, culture, health, and sport. Regarding the schools that are runned by the Municipality, the students' learning progress will be much easier if it goes through coeducational programs that stimulate critical thinking and creativity by carrying out projects in small groups and simultaneous solving problems, while simultaneously developing hard and soft skills. Pursuing this kind of coeducational programs would also be a great strategy to combat school drop-out ¹¹.

11

I am convinced that such a strategy would really reduce the school drop-out which affects especially boys, because it would really stimulate their interest in studies, as opposed to what they can develop through conventional classes.

02

Talk 07/12/2016



New paradigms in education

Moderator

Guilhermina Rego

Speaker

David Justino



Motivation

- What paradigms have taken place in Porto in terms of education, in order to build new mindsets?
- How are we preparing the future society?
- What tools are available to manage information and instil in the citizen a critical spirit and the willpower for self-enrichment?

A. Summary

- A.17 The current model of the education system – based on mass schooling – should and must be questioned. This model is considered suitable for a type of society that traditionally is called industrial society. Today's society, obviously, is no longer, that kind of society.
- A.18 The so-called modern schooling is based on a set of principles that underlie a certain conception of the schooling system prior to industrialization. Modern schooling is heir to the Illuminist vision of the eighteenth century, but in part it also an heir of the republican model that was attached to the French Revolution, especially in what concerns the need to form citizens. Modern schooling is also an inherited from the pioneering experience of the Northern European countries regarding the needs to promote non-school literacy. In Northern Europe, Protestant religions played a key role in the literacy of societies, for since the sixteenth century priests had ceased to be the intermediary between the believer and God, passing on this responsibility to the believer throughout the direct reading of the Bible, something that was widely encouraged and diffused in this kind of literate societies. In contrast, there was no similar motivation in the southern European countries. Until the Second Vatican Council, Masses in Latin were not a motivation for the literacy of the populations. As a result, in northern Europe, the schooling system was being built from the ground up, and the government didn't intervene to a significant extent in the planning and building of the school system. On the contrary, in central and southern Europe, the planning and building of the school system were made by the volition, initiative and government control. In some countries, like France and even in Portugal, the primary school teacher has made it possible for the uniformization of the nation-state culture by helping to build it.
- A.19 It is interesting to see what happens in the Asian countries. The excellent results obtained by the students are justified by traditional concepts of teaching/learning, structured, disciplined and even authoritarian, which have already been abandoned by Western Europe. On the other hand, in the East, education is considered the most effective social elevator, so it is worth the sacrifice ¹² to take it seriously. While in Asian countries this thought is considered to be the basis of discipline and school methodology in the West it was abandoned. This contrast in the approach to the teaching/learning process and its results should lead us to reflect on the quality of the education that is being taught to our children ¹³.

12 This thought is written by Aristotle.

13 The BBC promoted recently an experiment: sending a small group of British students to a high school in Seoul, South

- A.20 In Portugal, the school system has been marked by a lot of “upheaval” that causes immense hype but only superficial. In fact, one has not observed any new paradigms in education, but rather an adaptive evolution of the school system. In this context, it would be useful to look at the experiences of other countries and to consider to what extent they could be adapted to our cultural profile, to our handicaps, and to our objectives in a more or less direct way. In effect, in Portugal, little has been learned from the other countries experiences, so good intentions have often produced poor results.
- A.21 More than new paradigms for education, we need a flexible model that adapts to different realities and objectives. In education, it will be necessary to consider a more prudent attitude, being distrustful of both those, who want to change everything from one day to another, and from those who do not want to change anything.
- A.22 One of the most serious problems in Portugal’s compulsory education is the relatively high number of retentions. This circumstance results in a highly selective and discriminatory system. The use of the term “*Chumbo*”¹⁴ – ‘iron lead’ in these situations is very significant. Portugal is one of the European countries with the highest wage and social inequalities and school dropouts and school failure is an important factor behind these inequalities. It is urgent to correct this situation by alleviating social differences in the teaching/learning process, starting with a decrease in retention levels.
- A.23 Do politicians help or rather don’t? In education, the stage should be reserved for the teachers and the students, not for politicians. The pillars of the educational system, that were designed over ten or twenty years old, must be stable, even though the walls of the educational building can be changed or painted in other colours. Unfortunately, in Portugal this hasn’t happened, and the system is still too unstable. The direction changes of the Ministry are frequent and occur unpredictably and seemingly more motivated by the will to do differently from political predecessors than by a strategy that has been thought out.
- A.24 In education, only what is proven wrong, should be changed. It is essential to be able to question, to reflect, to innovate in a sustained way. In fact, innovation in education has to start from a well-characterized and dimensioned problem, and to be constantly monitored in terms of practices and their results, something that is still uncommon in institutions.

Korea, to monitor their reaction to the local education system. After a few days, the British students found the study and working regime too intense and stressful.

14 The word “chumbar”* (*which means in portuguese “lead (iron)” in English. But also means “to fail”), also has a bellicose connotation, as it refers to the act of firing ammunition with lead grains with a weapon.

- A.25 It is more important for schools to organize “bad practice” rather than “good practice” seminars if they want to assess what went wrong and interpret the circumstances that influenced negative outcomes by learning from that experience.
- A.26 In Portugal, the political war between the Left Bloc and the Right-wing in what concerns who is accountable for the good educational results tends to introduce a rowdy nuisance into the desirable stability of the teaching / learning process. In essence, this war is a nonsense.
- A.27 Nowadays, in average there are better conditions than they were in the past to what the level of teacher training, school conditions, the sensitivity of families to the problems of education, and the level of education that characterizes families respects. The percentage of students with poor results has decreased, currently standing at 13%. Simultaneously, there was an increase in the number of students of exceptional quality.
- A.28 With regard to decentralization, that lately has been so highly contentious, it should be assumed that, even though the City Council’s know how to manage public spaces, like buildings and budgets, who really knows about education is the school and the teachers. A Principal of a school or a school grouping must first and foremost be a pedagogical leader and not a space manager or a building maintenance personnel. The management and maintenance of the spaces can and should be carried out by the City Council. A good director must be and above all capable of mobilizing colleagues, students, parents and guardians around an intelligent educational project, well informed and sustainable. Teaching skills of the Ministry should also be transferred to the schools.
- A.29 Portugal is the most politically centralized country in Europe. The intervention of the Ministry goes to the point of even validating classes and determining their sizes. Interventions like ¹⁵ this should be in the competence of schools boards, because they know better than anyone the specific characteristics of their school community, the most productive pedagogical strategies in this context, and the objectives established in terms of results. It is incomprehensible and unacceptable that the Ministry is still refusing to engage in transferring to schools a set of teaching skills which in the first place undoubtedly belongs to them, thus preventing them from sharing responsibility for the results of their strategies. This attitude of the Ministry has been clearly wrong ¹⁶.

15 Interventions of this kind are examples of micromanagement, something to be avoided in any system or organization because they always constitute a management error.

16 Physics laws of determine that a system as centralized as that which exists in Portugal can not lead to good results. A model that tends to disconnect those who work on the ground, while depriving them of authority, can not be effec-

- A.30 Each school should be able to choose its educational model, as well as the processes that are more appropriate to meet their objectives. The universalism imposed unilaterally by the State tends erroneously towards an undesirable unaccountability of the schools with what respects to the fulfilment of the established goals.
- A.31 In education the question that needs to be made is “why did that student not learn?” Whilst there might be a percentage of 2% to 3% of students that do not want to learn, thereby refusing to participate constructively in any educational effect, what matters is not the schooling but rather the learning. Teachers do not only teach; above all, each teacher has, the responsibility to lead to learning. How should this sore of school failure be resolved? Even though there is no way to eliminate this problem in the short term, actions should be taken now for the next ten to twenty years to relieve the problem. Obviously, there are no magic solutions, but it’s necessary to make a significant effort in this direction. It is important to note, however, that the education system has improved a lot in the last decades. In 1991, for example, the dropout rate was 93%. It is currently around 13%. On the other hand, 25 years ago, the retention rate was twice as much as it is today. The level of education of the students’ parents is also currently higher.
- A.32 Statements of the kind “Those were the days...”, shouldn’t be tolerated, even so because they have an hiding drama: the fact that we are not managing to create opportunities for our children equivalent to those opportunities that many of our parents managed to create for us.
- A.33 Porto must be attractive to capture new investments susceptible to create wealth and stimulate new job and employment opportunities. This legitimates ambition and requires growth rates above 2%, therefore the businesses need to become more specialized to be more competitive ¹⁷. In this context, it is essential that companies can recruit qualified people with digital skills. Porto needs thousands of people with digital skills, including the practice of programming languages.
- A.34 Brexit could result in a number of opportunities for Porto, which should be maximized in order to attract highly competitive companies to the City-Region so that their comparative advantages will be increased.

tive at all. In this context, the centralizing policy of the Ministry is an obstacle to the education of people and to the development of the country.

- 17 The national business fabric is, in general, little specialized. This is due to the low incorporation of knowledge in the products and services they produce, which means that most of them produce products and services with reduced value. This, in turn, results in the need to pay relatively low wages. The best way for companies to create value is through specialization, since it is always based on knowledge, which in turn has a greater potential for value creation.

- A.35 It is essential that kids deal with new technologies. However, technologies are instruments. The key is to produce and apply knowledge, because that is where the potential of value creation lies. For this reason, the most important thing in Education is precisely teaching students to think so they can be able to produce and apply knowledge. The great challenge for schools is to get students to think autonomously and to adopt a creative questioning attitude. This concern, that is essential for innovation, should never be confused with indiscipline.

B. Suggestions

- B.4** A Municipality that has the ability to influence a school should articulate its responsibilities with the respective school. The Municipality should assume the supervision of the infrastructure and operating aspects (spaces, maintenance of buildings and equipment, transport, security, etc.). The Municipality should take over the supervision of the infrastructural and operational aspects (spaces, maintenance of buildings and equipment, transport, security, etc.) and the school should focus on the leadership and execution of the educational project that has been established with each other. This establishment of responsibilities is essential. The Municipality should also encourage the sharing of experiences between the school teachers, regardless of the levels of education they teach.
- B.5** It is important to provide the new generations digital skills, including knowledge and training such as building and testing algorithms as well as programming languages. However, this training should be done in parallel with the training of learning how to think, so that the student is able to deal with unexpected situations, designing and putting logical thinking into practice and considering solutions that can solve specific problems. Porto could at least find ways to carry out a specific program in this area aiming the formation of students with a high-school level and that further on companies could hire.
- B.6** The Municipality should make efforts and heavily invest in attracting investment that creates wealth in order to create and intensify new job and employment opportunities. In order for this effort to be effective, the city should be able not only to project an image of modernity, entrepreneurial dynamism, local availability of equipment, skills and talents, but also to be able to demonstrate appropriate taxation and financial conditions. The effort to attract investment, carried out in close coordination with the Municipality, should mobilize a group of citizens of recognized merit. It would certainly be a win-win situation for some of these investments to be linked to local educational projects. (See point B.81 below)

03

Talk 14/12/2016



Porto, an inclusive city?

Moderator

Lia Ferreira

Speakers

Paula Teles

Lígia Lopes

João Barroso

Miguel Neiva



Motivation

- Is Porto flexible to difference?
- What successful examples of the integration of people with special needs are there?
- The importance of concepts and technical solutions that resolve issues related to comfort and safety.
- How can such concepts and solutions be integrated into an educational content?
- Which measures are being taken by agents in order to more effectively integrating people with special needs?
- What must be done to make a city inclusive?

A. Summary

- A.36 The theme of an inclusive city is now an important factor in determining key aspects of quality of life of all people living in the city space or that enjoy it. This quality of life is a factor of valorisation of the city and determines to a great extent its DNA
- A.37 A city can only claim for itself the status of inclusive if it is a sustainable and intelligent urban space and has the capacity to continuously provide effective responses to the needs of its population throughout life, opening up and adapting to the changes of lifestyles.
- A.38 The inclusive city is one that neither segregates nor excludes. It is a seemlier and more economically viable city because it encourages and embraces demographic and sociological evolution.
- A.39 Cities must be designed for all citizens, regardless of their age, their social status or their limitations. Special attention should be paid to the elimination of architectural barriers. In this respect, it is essential to identify the 'wounds' of the city that prevent or hinder mobility that can be characterized by comfort and safety, so that they can be resolved promptly and sustainably. All citizens should be called to participate in this coordinated process of analysis, diagnosis, and design of the city because they are the ones who have the most practical knowledge of the situations.
- A.40 The inclusive city does not conflict in any way with the sustainability strategy already known. The inclusive city comes to take advantage of them and complement them, betting on more durable and adequate solutions, in a way of serving all those who live or visit it, taking into account the respective limitations imposed by natural aging and/or by any other form of (in) individual capacity. This is, in fact, the only way to ensure effective and sustainable solutions in the medium and long term. It should be noted that whatever the decisions taken within that framework, they must be primarily at the service of the people, for they are the ones who first give soul to the city and give its unique identity.
- A.41 Structured planning of technological solutions is one of many aspects of the response strategy within the inclusion policy in the cities. "Empowerment" through technology is a process that has already begun and has no return.
- A.42 In Portugal, there are almost one million Portuguese with difficulties, or even that can't walk or climb stairs. There are about 28 thousand blind people and 27 thousand deaf people. Statistical data demonstrate that 65% of the population is 65 years of age or older and that about 56% of them have at least one difficulty or disability. For various reasons, the Northern Region of the country is, apparently, the most affected.
- A.43 It is necessary to rethink the way cities are planned and managed for a number of reasons, including (1) the increasing rate of aging population, which is intended to

be more socio-economically active, (2) The new lifestyles, as is the case of women who are increasingly assuming a professional career and therefore with specific living and mobility patterns, and (3) data on physical, cognitive and sensory disabilities.

- A.44 Even characterized by immobility patterns, cities are often not ready for new mobility standards demanded by new lifestyles.
- A.45 Among other factors that positively contribute to a better organization, orientation, and sketching of cities, colour plays a predominant role. Thus, all the information that refer to the use of colour should take into account the inclusion of colour-blind citizens.
- A.46 About 350 million people worldwide (10% of whom are men) are colour blind. Unfortunately, the signages available in the overwhelming majority of cities does not take into account the difficulties of the orientation of these people. Transport, city maps, tourist guides, schools, hospitals, public and private buildings are some of the examples where information is usually conveyed through colour-based codes, which tend to confuse the colour blind. Porto has been an international reference in the use of colour to facilitate accessibility conditions, because there is already an innovative solution to solve this limitation, developed and already proven in Portugal and abroad, by a company from Porto. This solution should be applied in all signages of all urban spaces, in order to facilitate the life of the people.
- A.47 The city should plan and install an integrated sensor system, designed not only to facilitate mobility and the provision of geo-referenced information for the blind through a cane with a digital interface, for example, but also for people with no mobility restrictions, such as Citizens or tourists. The sensors could be updated through a wireless network and include monuments, buildings of special interest, parking lots, museums, restaurants, gardens and parks, etc. In the future, more inclusive cities will be filled with sensors that will interact with both people and vehicles circulating in their vicinity, providing and even receiving information in real-time.
- A.48 An inclusive city is a city that continually invites people to participate. The city should be able to call people who are not interested in any political, administrative or business interests to collaborate in designing, implementing and monitoring projects and integrating them into the project teams.
- A.49 The theme of inclusion needs to be addressed holistically and requires a competent upstream planning. The essential aspects to keep in mind are comfort and safety. For example, cities have designed asphalt carpet flooring for vehicles and pedestrian sidewalks/walkways in granite cube for pedestrians. This type of solution is unacceptable for the pedestrians because it offers them neither comfort nor safety. For example, a woman in high-heels on most of the existing sidewalks in cities may

be considered as a person with reduced mobility. Consideration should be given to the use of pavements that would reduce vehicle speed and improve the comfort and safety of pedestrians.

- A.50 As nowadays most pedestrian passages in a city are neither safe nor comfortable for pedestrians, making them safe and comfortable would be a major innovation.
- A.51 A city receptive to differences is a city that sketches and implements simple and effective solutions for people, meeting the fundamental criteria of comfort and safety. The ability to sketch such solutions requires multidisciplinary methodologies.
- A.52 The whole city should be planned so that it can easily absorb the technological innovations that are being available on the market, such as sensor networks, among others.
- A.53 The signposting used in Portugal is as a general rule, of poor quality and has a lack of efficiency. Most of the directions signs, identification and signaling boards have poor visibility and contrast, making it difficult to read. For example, street signs in the city of Porto are almost impossible to read under normal circumstances. The white lettering on a light green background has a very little contrast to help ensure an effective reading. Thus to worsen things, a small size type of lettering with a serif font has been chosen, which makes it even more difficult to read.
- A.54 Identification documents such as the Citizen's Card are almost impossible to read. The size of the lettering as well as the contrast with the light blue background is far too low.
- A.55 The majority of the urban rehabilitation buildings do not comply with minimum accessibility rules. For example, they don't have access ramps and/ or elevators.

B. Suggestions

- B.7** Porto's City Council (CMP) should incorporate good principles of inclusion in all its Departments so that each of these Departments can automatically include those principles in all actions taken. Ideally, the Municipality should have a sector or cross-office that can dialogue with all the other areas of the City Chambers, with the responsibility of sketching up an accessibility plan with actions planned for the next twenty years, accompanying their respective monitoring and implementation.
- B.8** The CMP should promote projects involving the different Municipal Areas (and their respective services) and the Municipal Ombudsman of Citizens with disabilities in its design and execution. This will be the most assertive way to raise awareness, capacitate public services and those responsible and to dynamise the city's change, encouraging the exercise of citizenship and inclusion policies.
- B.9** Creating a more flexible and attentive technological planning infrastructure that potentiates responses to a more demanding public. For this purpose, it's essential to ensure that the city's planning and management are done by cross-cutting and multidisciplinary teams preferably by using the ends instead of it's means. In this regard, the answer to people with special needs will be the only way to expand the city's capacity for inclusion.
- B.10** Think City: based on the desired premises for accessibility, technological infrastructure, and colour. These dynamization design and management methodologies will need to consider these issues as good practices and requirements, far beyond of the legislation in force. The new city's logic will have to go through the activation of participative methodologies and processes, in which the users with more special attention need ¹⁸, play a key role while being aware of their own reality.
- B.11** Creation of a Municipality Advisory Board that brings together critical and technical mass, around inclusion (accessibility and mobility for all). In this advisory Board will be essential the presence of policy makers so that structural decisions/options can be found in the dynamics of municipal management.
- B.12** Creation of a municipal fund for the elimination of architectural and sensorial barriers in municipal equipment and facilities. Following this proposal, it will be essential to systematically and consistently execute and implement a Municipal Accessibility Plan.
- B.13** Organizing an awareness-raising actions that deal with different forms of inclusion and the multiple areas of action for technicians, educational community and society in general.

18 Sometimes referred to as «extreme users».

- B.14** Reviewing all signposting of the city, to significantly improve its reading and comprehension of the information provided, taking into account colour-coding for colour-blinds and the possibility of using in relevant situations a colour translation app.
- B.15** Redo pedestrians sidewalks in an inclusive, comfortable and safe way for all, within its necessary width (minimum free 1.2m), a flat floor carpet-type pavements and ramps that aren't too steep next to pedestrian walkways. The essential criteria to be taken into consideration is comfort and safety of all pedestrians. It must be the City Council to establish the comfort and safety criteria and not the authors of the architectural projects. Once established, such criteria must be automatically applied in a uniform and consistent manner throughout the city.
- B.16** To equip the city with a network of sensors and beacons that collects and allows geo-referenced information to be made available to all citizens through a digital communications network that already exists but should be increased and updated. This network could interact with people and vehicles through appropriate devices such as walking sticks with digital interfaces, for blind people, mobile phones or other devices for the other people. This network could also provide services based on augmented reality and artificial intelligence through an app. Special attention should be given to the creation of content, a task open to all citizens themselves according to the process still to be determined.
- B.17** Ensure full compliance with all urban rehabilitation requirements in order to guarantee constructive solutions that serve all people, ensuring their comfort and safety: ramps, elevators ...
- B.18** To encourage an education program for children that is oriented to the learning problematic of the inclusive city. This program should be implemented in municipal schools, desirably with a tight articulation with the Municipal Ombudsman of Citizens with Disabilities. This is the way to change the current culture.

04

Talk 15/12/2016



From family and neighbours

Moderator

Joana Restivo

Speakers

Manuela Álvares

Filipe Araújo

Maria João Freitas



Motivation

Contemporary societies define new family and neighbour relations. From communities, neighbourhood units, to urban gardens, there are several examples of innovative approaches to family, intergenerational, and intercultural relations.

- How has social cohesion benefited from this?
- What innovative contributions are there to improve the resilience of family and social relationships?

A. Summary

- A.56 When we talk about social cohesion, we are talking about everything that is disconnected, but that should be connected. Social cohesion should involve all people towards making societies less asymmetrical and less dysfunctional.
- A.57 How to do the management of the differences between people who share the same spaces? ¹⁹The common spaces come to life once they are able to accommodate diversity in a comfortable way for everyone.
- A.58 Two major challenges must be highlighted in order to foster social cohesion: How will it be possible to incorporate in our daily lives the differences we have with each other, in a more reasoned manner, even constituting an advantage and not a disadvantage? An effective strategy will be to become aware and incorporate relationships of interdependence that we maintain with each other in our day-to-day as a positive thing. Unfortunately, most people have not been educated in this regard.
- A.59 The mission of Porto's *Domus Social* is to manage the Municipality's public housing. This public patrimony includes 12,500 dwellings, about 11% of public housing in Portugal (12% of Porto), and also more than 30,000 people, corresponding to about 13% of Porto's population.
- A.60 The deficiencies of public housing are still numerous, in terms of social organization, infrastructure, access and mobility. One way of identifying these difficulties has been the definition of a neighbourhood representative that may mediate between people living in the same urban space and the Municipality.
- A.61 It is very difficult to reconcile the perspectives of different people who live in the same neighbourhood. However, there is clearly a tendency, that we welcome, for a growing interaction in public spaces.
- A.62 The Municipality of Barcelona, for example, encourages the organization of neighbourhoods in communities. This type of organization is valuable for the development of social cohesion in a natural way.
- A.63 The Portuguese culture is relatively averse to the participation of people in the identification of common problem-solving. How will it be possible to stimulate the organization of people who share a certain discomfort that undermines social cohesion, leading them to act in a coordinated way to delete it? Possibly making them feel that this discomfort is essentially theirs and that they can actively participate in its resolution, to benefit from it. In other words, involving target people as an essential element for their problem-solving.

- A.64 Despite the perception of a certain level of discomfort, it is not always easy to identify the genesis of the problem. However, the direct involvement of the people who feel the so-called discomfort makes it easier to identify the source of the problem.
- A.65 Children's playgrounds, that have brought an enormous sense of magic to the streets, are a very important social component in supporting families. Currently, there are already several examples of this type of situations spread throughout the city. Likewise, the municipal gardens, where many children also participate, have been shown to have an equally considerable social component. Ideally, people should organize themselves and involve the Municipality in initiatives such as these instead of being the Municipality to unilaterally determine where and how to implement similar actions. It is vital to encourage the creation of urban public spaces that can enhance social cohesion.
- A.66 It should be noted, for example, that in a certain area of the city a space is being prepared to incorporate 98 vegetable plots. It is expected that this area will be an important component in the social cohesion leverage strategy.
- A.67 The first edition of the program "*Desafíos Porto*" was very interesting and had a huge success. Citizens were challenged to present problems that could be solved with technology, and then companies from the city and the region were invited to contribute to their resolution. In the first edition of this program, more than 300 challenges emerged and about 100 companies applied for their resolution. Among those challenges 4 were chosen, and which are currently being solved by 4 companies. The interest and even the enthusiasm that this program generated was absolutely remarkable.

B. Suggestions

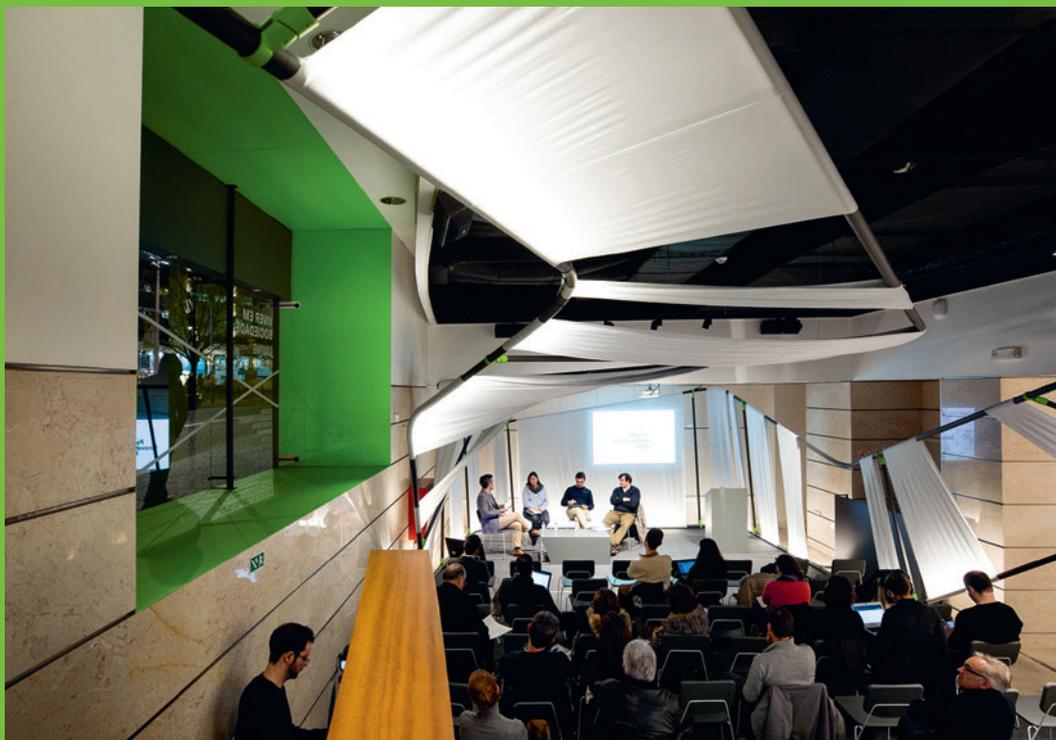
- B.19** “Social cohesion – what do I, as a citizen, have to do with this? We all have. The question is ‘how’ do we see this issue?’ Challenges (i) From the family and from the neighbour: managing difference in close proximity; (li) relationships with others: working on interdependencies; (lii) cohesion has to do with imbalance, discomfort, and innovation: to innovate is to promote transformation. People know that they can participate in solving the problems that causes them discomfort, but they do not really believe in a continued effectiveness of their involvement. It is necessary to inform them and to intensify strategies that lead to their participation, and not only to summon the people when “it suits them”.
- B.20** If it is consensual that “it is the people who make the neighbourhoods”, shouldn’t we consider collusive strategies that intensify social inclusion, bringing poor people to the city, in order to avoid them to hive-off to the margins of the city, and taking people from the city to the neighbourhoods? ²⁰
- B.21** It is not up to public entities, first and foremost, to teach associativism. However, they have the duty to provide guidance, through measures such as (1) promoting the conditions for people to believe that these entities are available; (2) create sharing experiences that enable people to experience positive interdependencies on the assumption that “teaching does not work very much, but we learn every day.”
- B.22** “When you rehabilitate not only the neighbourhood but also the public space, the performance of the resident community is better.” Guidance: Although from an administrative point of view (financing) the interventions in buildings and in the public space of the boroughs are different actions, it would be necessary to seek a combination between them in time as much as possible.
- B.23** Small public spaces, such as playgrounds and gardens, are ideal environments to stimulate healthy living among people. The Municipality should continue to plan and offer spaces of this type

20 This idea was shared by Joana Restivo, who based her suggestion on the research carried out under her Ph.D, in which she defended a diagnosis of each neighbourhood, case by case, as well as the reservation of some housing for accommodation in temporary situations of conditioned mobility, Elderly people, students or young people who are beneficiaries of rental support, which is intended to help diversify (age rage and socially) the structure of the resident population.

- B.24** **Microgeneration of energy in communities (neighbourhoods, large buildings, condominiums ...)** can be a great way to create experience sharing that can greatly contribute to developing a culture of social cohesion, as well as introducing clear financial benefits to participants. The Municipality could launch a pilot program to plan and implement a number of positive sharing experiences, for example in the field of electricity generation through solar panels, in collaboration with electricity companies.

05

Talk 20/12/2016



Governed city?

Moderator

Paulo Calçada

Speakers

Ana Neves

Avelino Oliveira

Carlos Soares



Motivation

Participatory processes, models of support for growth, information and awareness or services of agility and approach to the citizen, among others, are several of the tools currently available for city management.

- Have these tools, including IT, become effectively relevant to social cohesion?
- Has innovation known its place within city governance?
- What examples demonstrate the positive impact of different forms of governance on social cohesion?
- Current integrated technical management model being built.

A. Summary

- A.68 The tools based on information and communication technologies are essential to articulate governance policies of municipalities and, above all, municipalities groupings. In Porto's case, they play an essential role in the Porto Metropolitan Area (AMP), which brings together 17 municipalities. This entity deals, in fact, with governance. Such tools must be interconnected to ensure interoperability. The creation of the "*Andante*", that is the valid transport ticket in the extension of the AMP, is an excellent example of this.
- A.69 It seems important to create the Department of the Information and Technology at Porto's City Hall, to be led by the head of the Information & Technology Officer who should plan, implement and manage the resources associated with information and technology, such as geographic systems and technological convergence between portfolios and between nearby municipalities. This position is essential because information systems are the new roads.
- A.70 After resolving the issue of having the information systems infrastructure working properly, it is necessary to consider how the information collected can be useful to its residents? This would be an important task for the IT management team, which could make available a number of data to the public that would answer the questions: 'how is the municipality executing its budget? Or "is it possible to consult the municipality's governance program execution? ', Or' which are nowadays the least polluted areas of the city?'
- A.71 There are a lot of challenges in terms of data security because only recently has the Internet been significantly concerned with security issues.
- A.72 From the point of view of the Municipality, it is very interesting to have access to all the data collected, as this allows a better understanding of some of the problems that will affect the city and manage the resources more effectively.
- A.73 Creating multiple information management channels tends to create confusion and lack of trust. Being aware of this fact is fundamental to being able to create an information system that communicates effectively with the citizen.
- A.74 The role of municipal governance should be centred on guiding and let do, not only on having the need to do always. It is often seen that public institutions do not know how to do it, either because of the lack of resources or because the lack of knowledge. Municipalities should be catalysts for the entrepreneurial and individual initiative, defining the problem that needs to be solved through dialogue with citizens whenever possible.

- A.75 The 'Fix my street' website works very well in England because back-office work was and continues to be of excellent quality. Conversely, the application version is unique for the whole country, which encourages municipalities to compete with each other.
- A.76 The Municipal Ombudsman's Office in Porto was conceived and created by Prof. Daniel Bessa in 2004. Its conception began by listening to the Municipality about its transversal front-office services that the various departments wanted to see ensured on Customer Service, and establishing flowcharts level corresponding to all processes.
- A.77 It is possible to contribute to ensure transparency in the Municipality and to avoid the use of demagoguery if one works on data. However, it is essential to be able to determine the type and amount of data to be collected and processed.
- A.78 The interconnection between technology and media (including journalism) is essential. Until a few years ago, only the large public institutions had a voice in the media. Nowadays many other institutions, the citizens, and their associations already intervene decisively in the digital space. Everyone can produce various types of content, and above all, collaborate in curating and disseminating information, in particular on social networks, and contribute, through storytelling techniques, to a greater involvement of citizens. According to Manuel Castells, cities are the ideal place to solve the problems of social cohesion, and this is only done through such processes. But how do you manage a city within this perspective? The management of a city in this context implies the setting up of an infrastructure to plan and find the public and private means necessary to allow specific interventions in this area ²¹.
- A.79 The disparity between rich and poor brings difficulties in any social system. To what extent can digital tools be used to reduce these difficulties and promote social cohesion?
- A.80 An interesting platform to promote innovation is "Smart Procurement", in which the administration of the platform places out the problem it is intended to solve and leaves to the companies or the municipalities the definition of the solution that they consider to be the most adequate. Unfortunately, the "Code of Public Contracting"(CCP) is not compatible with this type of procedures. In the future, the situation may change. A similar limitation is the launch of calls for tender ideas, which public contracting still does not allow. The CCP is, in fact, averse to innovation.
- A.81 Machine Learning and Artificial Intelligence will enable innovative solutions to new and old problems.

- A.82 The “*Freedom to Innovate*” program in England is an excellent model to introduce innovation at the initiative of businesses or citizens.
- A.83 Citizenship 2.0 is an online platform that presents and disseminates projects in Portuguese language related to citizenship. Currently the platform includes 120 projects.
- A.84 The essential problem of open data is cultural rather than technological. In order for everything to go well, it is necessary to create the corresponding ecosystem and appoint a leader or champion who will pilot these processes.
- A.85 The new data regulation, which will come into force in Europe in May 2018, is very restrictive and imposes fines of up to EUR 20 million. This harms the use of open data. Predominantly, this is a European issue.

B. Suggestions

- B.25** To create the portfolio of Information and Technology in Porto's' City Council, to be led by a Chief Information & Technology Officer who should plan, implement and manage the resources associated with information and technology, such as geographic systems and technological convergence between Departments and Municipalities. This position is essential because the information systems are the new roads.
- B.26** Once you have the information systems infrastructure working properly, how could you resolve the issue of making all the information collected useful to the residents? This would be an important task for the information systems management team, which should make it easier for the public to ask questions such as ' how is the municipality executing its budget? 'Or' how to consult the implementation of the governance program of the municipality? '. Throughout this effort, the relevant international directives must be followed from the outset.

06

Talk 21/12/2016



Is a healthy city an utopia?

Moderator

Teresa Restivo

Speakers

Henrique Barros

João Paulo Teixeira

Paulo Abreu



Motivation

- How can the city provide the citizen with a response to health care, physical exercise or comfort needs?
- What healthcare products and services do we know are able to transform a city into a place with more and better supports in health care and well-being?

A. Summary

- A.86** WHO launched a network project of healthy cities at the beginning of this century, for considering this issue of the utmost importance. In particular and focusing attention on Europe, we find that there are around 100 cities associated with this program as well as 30 national networks of healthy cities. Health is a business of all and for all.
- A.87** Technologies confer immense potential to cities with regard to the health conditions they can afford.
- A.88** A recent study carried out by the University of Porto, the Ricardo Jorge Institute and the Municipality, on the environmental conditions in the nursing homes in the city of Porto, showed that 70% of households had excellent conditions in relation to most of the relevant parameters. Unfortunately, thermal comfort is still generally low in Portugal, and nursing homes are no exception. This study also revealed that there is a high degree of dementia in institutionalized persons, and that also draws attention to the importance of establishing regular interactions between these people and the outside world. For example, interactions between institutionalized elderly people and young people of different ages should be encouraged. In addition, some sports practice is proven to be very important because the aging of a population must be active.
- A.89** The city of Porto was the first city in Portugal to be classified by the WHO as an elderly-friendly city.
- A.90** According to the Universal Declaration of Human Rights, signed in 1946 by all the Member States of the United Nations, health is a fundamental human right. As such, health concern must be a constant preoccupation in all policies, including in local politics.
- A.91** Public Health is the organized effort that societies make to promote health and prevent disease.
- A.92** "Prevention is better than cure". The best prospect deal in the near future is that of investing in the trade of prevention, currently and exaggeratedly, until it can prevent prevention. It has been widely believed that prevention is within reach of any ignorant person, so there is no need to provide specific training in this area. This perception is incorrect because specific professional training is required for making prevention responsibly and effectively.
- A.93** It is possible to have healthy cities, this is to say, cities that promote health and prevent disease. For example, cities that devise ways to make people walk a little more, comfortably and safely, are promoting health. If architectural barriers are additionally eliminated, the city is preventing possible accidents that cause fractures and other

injuries. These are examples of how worth it is betting on articulated strategies to promote health in all city policies.

- A.94 In Porto, there is a research centre that is unique in Portugal that focuses on studying differentiation factors in the population, a method often called life cycle approximation. However, it would be very useful if Porto where to have a public health school ²².
- A.95 It is crucial to monitor large groups of people for many years to understand the most important public health problems and the contexts in which they develop.
- A.96 Monitoring ambient air quality in a city is essential. The Faculty of Engineering of the University of Porto (FEUP) has developed an air quality monitoring system based on a wireless sensor network, through the measurement of several environmental parameters, which allows real-time information to be concentrated in an information system ²³. Measurements such as temperature, humidity, pressure, CO₂ and volatile organic components are measured. This type of solution is also interesting for monitoring air quality inside large buildings.
- A.97 The most effective health care solutions have to be obviously people-oriented. When we think of health solutions for a city, they have to be based on testable realities and problems in the places. The context is very important.
- A.98 It should be part of the curricula of medical courses to visit (for medical support) institutions or spaces of the city, namely nursing homes, swimming pools, parks, among others, where there are people with some sort need of care.
- A.99 It is very difficult to transfer developments that are carried out in the university context for the market. However, the University of Porto (UP) has a technology transfer office (UPIN) and the mission of this entity is to contribute to this happening.

22 The meaning of this statement was not clarified, since in Porto there is the Public Health Institute of the University of Porto (ISPUP). From the debate, it appeared that scientific resources and public health programs are currently dispersed among various institutions in the city and uncoordinated.

23 A particularly interesting system is what has been implemented in the city of Chicago in collaboration with the Argonne National Laboratory. This system allows the real-time monitoring of various gases and parameters with relevance to the determination of air quality, as well as understanding the specifics of the urban climate. This information is available in real time for residents, who use it to optimize work and leisure routes, for example.

B. Suggestions

- B.27** Health must be present in all the policies of the Municipality.
- B.28** The Porto City Council should challenge and encourage the University of Porto and other entities to create a Public Health School that gathers existing competencies that are currently dispersed, and that fosters the development of new competencies. An important goal of this school could be to form (train) people who educate others in health behaviours ²⁴.
- B.29** The Municipality could stimulate a project of “collection of memories” associated with the lives of the elderly of the city. Teams of young people could conduct interviews at a large number of seniors in the city, say a thousand, record audio information about their life memories and how they intersect the city. This information would be transcribed into a collection of text to be edited professionally and published, providing a unique historical record and with immense value for the city’s cultural heritage ²⁵.

24 See note 22.

25 Contribute of the Editor

07

Talk 22/12/2016



Active ageing

Moderator

Raquel Castello-Branco

Speakers

Ângela Fernandes

Paula Portugal

Ângelo Martins



Motivation

- Porto has joined the global network of Age-friendly Cities (WHO). What plan has been defined and what results are obtained?
- Additional contributions to transforming the city of Porto into an age-friendly city?

A. Summary

- A.100** Aware of the importance of the participation of the citizens in the promotion of physical and mental health, Porto has made a remarkable effort for its elderly people to participate in the life of the city.
- A.101** Porto has become a city that is friendly to active aging, from the understanding of the obstacles felt by every person on a daily basis. It is crucial to know the older people and their needs before implementing specific projects. On the other hand, it is necessary to involve them in these changes to encourage their participation in them.
- A.102** The city of Porto has been attentive and has participated in the design of solutions to facilitate an active aging for its population. In particular, it has joined the “Global Network of Friendly Towns for Older People” (WHO) and has already presented the first part of an action plan.
- A.103** The city transforms itself to be more friendly to the active aging through the education and the formation of the people, since childhood. It is necessary to educate people so that they are receptive not only to change in their lifestyles and the way they develop, but also to align expectations with their family and fellow citizens.
- A.104** The active aging model is based on four fundamental pillars: on the work of everyone and throughout life for health, safety, participation and training.
- A.105** Technology can and should play an important role for the participation of the elderly people. Porto cherished the SiosLife project that aims to encourage the participation of the elderly. This project allows to receive and send messages and videos, as well as the sharing of moments with the people closest to the elderly people involved in it. This project is being implemented in 5 Porto institutions right now and already has the participation of more than 100 seniors.
- A.106** There is a global trend for older people to take more care of themselves and technology can be an essential tool to enable this. However, this evolution will not be easy. A privileged vehicle for accessing an elderly person in your home may be the television/ set top box.
- A.107** With a high probability, the use of technology can create unrealistic expectations and therefore has to be carefully considered. It is necessary to take technology to every person, it is not enough to make technology available. This is especially difficult with more isolated and less able people, even when those people are in collaborative institutions.
- A.108** Self-propelled and automatic vehicles are examples of technologies that are especially well suited for the elderly or for people with various limitations. However, it will be many years before these technologies are widespread into society.

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- A.109** As people grow older, their willingness to participate is often reduced. So a major problem is motivating people to participate. One way to ensure this is by harnessing the skills elderly people have. What kind of internships and/or projects could raise the interest of retired and/or elderly people? What kind of incentives would be worth considering? How could the municipality contribute in a consistent way to stimulate an active aging of its citizens?
- A.110** It is essential to set goals and create initiatives to motivate retire/seniors qualified technical skills of value for the municipality to participate in programs where they can make a valuable contribution. When the objectives are met, there should be public recognition and this kind of recognition may be enough. Another incentive to promote active aging would be a policy of reducing costs incurred by the people involved, for example costs of meals, transport or taxes under municipal control.

B. Suggestions

- B.30** The Municipality of Porto should be the aggregator of all relevant information in the context of active aging. In Porto a lot of relevant information is produced in this area but it is disaggregated.
- B.31** The Municipality must make the geo-referral of all the elderly people of the city. This reference could be made under the previous suggestion B.29
- B.32** The Municipality should mobilize experienced retired technical staff to collaborate on some projects and initiatives, in exchange for incentives such as offering transport tickets or food stamps, reducing some municipal tax or to see their contribution publicly recognized. In this context, a kind of ‘collaborative currency’ could be created and used to compensate for technically qualified volunteer actions or, more generally, to create value for the city.
- B.33** The Municipality should lower the costs of the shows promoted in the city by making tickets available at a more affordable price for retirees with reduced retirement pensions so that these people could participate more in the life of the city and develop new social bonds and interests.

Sketching The City

08

Talk 17/01/2017



Porto, an accessibility laboratory?

Moderator

Manuel Paulo Teixeira

Speakers

Luís Valente de Oliveira

Cecília Silva



Motivation

- **The City** – After the victory over the underground (with the Metro), what is the biggest challenge that accessibility will face in the physical territory of Porto? Orography? Douro River? Airspace?...
- **Modes of Transport** – Which mode of transport has the greatest evolutionary potential, in a territory and in a society such as Porto? Bicycles? Microcars? Light underground? Buses? ...
- **Citizens** – How can technologies applied to telecommuting, influence the mobility habits of citizens?

A. Summary

- A.111** To improve the quality of life of the inhabitants of a city, the word ‘innovation’ is appropriate because it applies not only to the transformation of knowledge into value but also to the many products and processes that can result from it ²⁶. For example, innovation in management is of capital importance to a city. In addition, innovation in behaviour is also of crucial importance to a city. We must be able to induce new behaviours that make life more pleasant for all. For that, the two essential processes are strategic planning and tactical execution. It makes no sense to do anything without thinking well about where you want to go and what are the objectives to attained it.
- A.112** Our area of action in the city is difficult, with a bumpy territorial body characterized by a very large difference between two levels. The city of Porto started by the river, as is usual and justified by crossing and trade needs, but quickly realized that it needed to defend itself and, therefore, to raise its levels. This contrast between levels the low-quota and the high-quota still accompanies us today, because the connection between both remains very difficult still except for the connection by elevator next to the D. Luís bridge. The city should rehearse several other modes of connection between the two levels and even recover some of the old ways like the two elevators of the Ponte da Arrábida bridge at several points along the Douro River. Today there are areas of the city that are isolated between the two levels and that should be testing solutions that lessens these physical difficulties. The fact that the city develops along such different levels constitutes a problem of mobility that conditions it. Today there are some areas of the city that are isolated between the two levels and that should be a test solution that lessen these physical difficulties. The fact that the city develops along such different levels constitutes a problem of mobility that conditions it.
- A.113** The first step to take when designing a strategy is to deal with the “missing elements”, or missing links. It is by these missing elements that we should begin because the nets are constituted by arcs that interconnect points and all points must be interconnected by arches.
- A.114** At the moment, Portugal has enough urban land to house 30 million Portuguese when there are only 10. This is of crucial importance in the sketching of city strategies. First, we must occupy the areas where we no longer have to spend on accessibility, and then we need to rehearse something important: the application of the Threshold Theory, that is, to ask ourselves where it is cheaper to expand. The balance between

these two strategies may lead the city to bet on the urban seafront extension (western) or in Campanhã (eastern).

- A.115 Lisbon is a good example of one of these options: with the construction of The Parque Expo, the eastern part of the city has recovered opportunities because a new city was built there.
- A.116 Mobility should be articulated with networks, considering all modes of transport (road, rail, air ...) with the network or networks that are associated with each mode. In fact, people today want to see sustainable solutions to improve their quality of life. The indispensable multimodality requires us to ensure interoperability of solutions that are specific to each mode of transport.
- A.117 It is necessary to address the three types of networks that overlap in Porto: the national network, the various regional networks, and the various local networks. Notwithstanding the manifest complexity of managing these various networks, their interoperability is fundamental.
- A.118 The Porto's Outer Regional Ring Road (CREP) now has a toll. If the toll did not exist, the crossing traffic would flow more efficiently. As such does not occur, the centre gets overwhelmed because the traffic is not diverted away from the centre of the city, as it should be. The fact that the Internal Waist Ring Road (VCI) does not have a toll, aggravates this situation. The elimination of tolls at CREP should, therefore, be considered.
- A.119 Each mode of transport has a set of specific functions and presents relative advantages over other modes. There are trips that are done preferably in one way and not another. For example, travelling for shopping is done mostly by car, while commuting to and from work should preferably be done by public transport.
- A.120 The most powerful instrument of managerial innovation is ticketing. This is by no means a secondary question. Ticketing is a very important systemic administration tool, especially if it ensures interoperability. It is a fundamental instrument in the policy of consolidating intermodality with the needs of people and the different types of travel.
- A.121 The operating of systems, in order for it to be effective and fluid, forces people to be "immersed" in super-abundant information, to ensure that they are managing their time well, so that in every moment every person has all the elements necessary to enable them to make the most appropriate decisions to achieve their goals and make their life more comfortable. For example, to have at any bus stop real-time alerts of upcoming buses, the time of arrival of the buses at that stop allows passengers that are waiting for the bus to make decisions. The same goes for the underground and

other types of public transport. However, the information has to be friendly to all citizens, without distinction.

- A.122 In Porto, the underground – Metro has greatly changed people’s perception of accessibility. However, given the complexity of planning and executing the works in a light rail rapid mass transit system, it is always worth having one or two new tube lines in the pipeline, properly thought out and planned as previously mentioned. If we consider that the planning of a tube line takes years, it is understood the need to keep some projects in reserve, to execute through available resources.
- A.123 The deep valley in which Porto is located has led to the option of bridges at high altitude. The city must continue to be high bridges, but there are still a lot of bridges and tunnels to guarantee the accessibility that the Porto and the neighbouring cities need.
- A.124 Behavioural innovation is always difficult to manage. However, there must be incentives to involve citizens in this process, incentives that start by explaining everything very well.
- A.125 In any innovation process, the question of the relationship with the public, which is obviously very different in terms of age, culture, and society, must be carefully considered. Any innovation has to be thought of in terms of simplicity of use by all people.
- A.126 Proximity accessibility is a challenge that has been forgotten. Accessibility can be conditioned by mobility or proximity. Proximity accessibility strongly influences the local quality of life.
- A.127 Accessibility of proximity recaptures public space for the citizen. Since public space allows the support of various functions, it is necessary to change the balance of the functions that appear in it. This rebalancing allows to substantially improve the quality of local life and attracts businesses and services.
- A.128 Small-scale interventions can be of great importance in the context of proximity accessibility.
- A.129 Density allows for the provision of proximity services but is sometimes pointed to as contributing to the poor quality of services.

B. Suggestions

- B.34** Think and implement connections of various types between the high quota and the low quota of the city of Porto, to mitigate the consequences of this restriction of mobility in the city.
- B.35** Insist on the elimination of tolls in the CREP to divert much of the crossing car traffic currently used by VCI.
- B.36** To increase the accessibility of proximity to regain public space for the citizen, to stimulate the improvement of the local quality of life and the appearance of services of proximity. Think and create small islands of comfort. Small-scale interventions can be of great importance in the context of proximity accessibility. Accessibility of proximity strongly influences the local quality of life, because it creates spaces and contexts of social interaction and attracts businesses and services.
- B.37** The Municipality should implement an online system so that citizens can report problems and/or suggestions for the improvement of collective life.

09

Talk 18/01/2017



How do We move in Porto?

Moderator

Cristina Pimentel

Speakers

Álvaro Costa

André Martins Dias



Motivation

- **Planning** – What planning policy should be considered for the transport networks in the city? Density or demand?
- **Manage** – How to integrate different modes of transport? Should we set priorities?
- **Operate** – Regulate and operate? What challenges will a city like Porto face in the coming years in this matter?

A. Summary

- A.130** The concept of a network is essential in transport planning because we need to ensure continuity between different physical modes of transport. Once that in Portugal, the networks end “almost” in the right spots but often they don’t get there. By contrast, in ancient times the Romans were careful to set up stops and crossings every 35km to ensure the continuity of their networks. In this context, it is essential to include an electrotechnical engineer in transport planning teams because he is the only type of technician who has acquired academic training in networks.
- A.131** A network consists of the arches, nodes and squares. Nodes, must ensure critical mass to attract people and services that support an economy. In general, the arches are ‘non-spaces’, areas in which people who circulate do not normally leave richness except when these arches support pedestrian flows. When many people converge on the same point, this point is considered to be a square. Economic activities are simpler to implement in nodes and squares ²⁷ since the arches usually support traffic.
- A.132** We should look at the territory in terms of the arches, nodes, and squares. If the network does not run smoothly and continuously, this means that the territory has been poorly planned and the result is not the one expected.
- A.133** When planning a system, networks can not be considered in a static perspective. It is also necessary to include the dynamics of the system and its human and social components because without trying to address the needs of the people there is no solution.
- A.134** The demand must always be at the centre of the defining of solutions. It is not possible to design a new transport network without understanding how the occupation of the territory, the mobility needs of the people and their behaviour occur.
- A.135** The Municipality of Porto has about 300 vehicles. At this point, it is already possible to follow each of these vehicles automatically, in real time, and understand how this patch of vehicles moves. After three years, it is possible to understand how it is more effective to think and plan the mobility in the city for this fleet, with impact on the planning and the implementation of the future electrical mobility network.
- A.136** Electrical mobility is important for the future of the city. In this context, the city of Porto has been planning and setting up a root network that is technologically advanced and will respond to the needs of the citizens. The first fast-loading station is being installed near the Boavista Roundabout.

27 The length of time that people stay in nodes and squares is most longer, which allows for a more greater interaction between the people who go through there and the local economy services that may exist there. For this reason, the probability of wealth creation in nodes and squares is much higher. In mathematical terms, this fact is related to the calculation of overlap integrals.

- A.137 The major problem with electric mobility is that the low costs associated with it will tend to encourage more irrational behaviour on the part of drivers. This aspect is critical in the planning of an electric mobility network.
- A.138 Porto should prepare for shared mobility, starting by planning and implementing bicycle (push-bike) and parking/charging stations for (electric) bicycles. Bicycles and cycles per se, as well as their rental service, can be operated by private bike-sharing operators. Barcelona, for example, already has about 5 thousand users for services of this kind, involving conventional bicycles, although with additional costs (see point A.146 below).
- A.139 With the automatic and autonomous driving of motor vehicles, especially electric vehicles, much of the need for people to purchase motor vehicles will disappear. Using shared vehicles will be substantially more economical and effective for most citizens.
- A.140 Cars and vehicles, in general, should be restricted in the centre of the cities. With electric cars, the problem will worsen. The electric car will be suitable for leaving the city and for strolling because these trips are characterized by a very low cost. The policies that have been followed for the introduction of electric cars are often disastrous. As a basic principle, the charging points should be located on the outskirts of the cities, not in the centre, in car parks situated close to a public transport hub, for example, a underground station. Electric vehicles should not be permitted on bus lanes. Planning and operation should be thought in terms of network, taking into account the previously mentioned in point A.137.
- A.141 The city of Porto has the traffic oriented towards to the automobile. To go cycling from Ribeira to Antas or even to the Casa da Música is difficult and the feeling of some insecurity. Organization is essential. For example, there are very wide one-way roads but no bicycle lanes. Bus lanes should also be open to bicycles and not just for motorcycles.
- A.142 The city of Porto is not yet ready for two-wheeled vehicles. In particular, bicycles and electric cycles will play an important role in the near future. In general, we can say that this kind of vehicle will play an important role in the local mobility of people.
- A.143 The sharing of bus lanes with the motorcycles was an excellent idea in Porto.
- A.144 More connections should be created between the high and the low levels of the city, for example near the “Palácio de Cristal”, so that networks can be established that can flow traffic in various ways and efficiently. Currently, the limited existence of a connection between the two levels of the city, as already mentioned in point A.112, limits the efficiency of mobility in the city.

- A.145 The different modes of mobility – buses, cars, motorcycles, bicycles, on foot ... – have in general an adversarial relationship with each other, competing for space. This competition establishes the value of the space for mobility and must be taken into account when planning routes and traffic flows.
- A.146 In Barcelona, the introduction of bicycles created a high cost in the system, namely the daily transport of thousands of bicycles from the low level of the city to the higher level of the city, and this did not solve the problem of people mobility ²⁸.

28 Álvaro Costa expressed a strong opinion on this matter, considering that Barcelona is a disaster, because public transport has now been reduced to taking people from the lower part of the city to the higher part of the city. Although Barcelona has received awards in this area, Alvaro Costa is of the opinion that the city is an example of a bad planning in terms of transport.

B. Suggestions

- B.38** Thinking and planning the city accordingly to the networks theory or graphs,²⁹ thinking in terms of arches, nodes, and squares as constituting the framework that will or will not support an economy in certain points and axes. However, when planning a system it is not enough to consider the system from a network perspective. It is necessary to include the dynamics of the system and the human and social components because people are the centre of the solutions. For this reason, without looking at the needs of the people, solutions are not being obtained.
- B.39** One should start thinking and preparing the city for shared mobility using two-wheeled vehicles, bicycles and cycles these last, electric. To think of underground spaces to park and load these vehicles, possibly taking advantage of parking areas and freeing up space that is extremely valuable and which can/should preferably serve proximity,³⁰ especially in the city's centre. There could be an app that indicates that shared mobility vehicles are available and where they are parked, allowing its reservation. Bicycles and cycles, as well as the rental service, may be delivered to the holding by private operators. Two-wheeled vehicles, bicycles, and cycles must be permitted on bus lanes.
- B.40** In the implementation of the electric motor vehicle charging network, it should be taken into account the fact that the low costs associated with electric mobility are more likely to stimulate more irrational behaviours on the part of the drivers. As a basic principle, charging points should be located on the outskirts of the cities, not in the centre, in car parks situated close to a public transport hub, for example, a underground station. Electric vehicles should not be permitted on bus lanes.

29 Literal translation of Graph Theory, a common systems and flux analysis tool in Electrical Engineering and other areas of knowledge.

30 This topic was discussed in the previous debate. See points A.126 to A.129 and B.36.

- B.41** Equip all public vehicles with emitters that allow their tracking in real time, to understand the forms of mobility of people in the city. Inviting companies with large fleets of vehicles and even private ones to adhere to this system, ensuring essential aspects of anonymity and data security. Such of a system would make it possible to accurately characterize the mobility profile in the city, providing valuable data for optimization, not only in terms of occupation of the roads but also of the articulation between different modes of transport.

10.1

Talk 24/01/2017



Permanent and temporary — Architecture

Moderator

Filipa Frois
Hugo Reis

Speakers

Andreia Garcia
Guilherme Blanc
Juliana Trentin



Motivation

- What challenges of transformation of the city are identifiable with Architecture?
- What answers has Temporary Architecture given to these challenges?
- How does Temporary Architecture relate to innovation?

A. Suggestions

- A.147 The statute of permanence, in Architecture, can cause some discomfort. Nature and the human condition are sufficiently convulsive to tend to require a more temporary character to Architecture. Architecture, however, can always be seen within a window of temporality more or less distended.
- A.148 Historically, architecture has almost always been associated with a sculptural aesthetic. In the postmodern period, this association was particularly clear. In the last decades, however, there has been a greater convergence between the practices of Architecture in a logic of temporality.
- A.149 In 2015, an important visual arts prize, the Turner Prize 2015, was awarded to a collective of architects ³¹ responsible for a permanent urban regeneration project in Toxteth, Liverpool. This project was seen as a major social set-up.
- A.150 There is a somewhat perverse relationship – a kind of dependency – between the market and the creation of public art. There is nothing that separates the public from the public artwork. However, ephemeral or temporary public art does not have the capacity to be constituted as heritage, because the heritage requires a certain succession or generational relation. In other words, the heritage is associated with the construction of a collective memory and this kind of memory takes time.
- A.151 The Municipality must take special care of the city's heritage. The Porto's City Council has challenges to face in what regards to public art and the reactivation of the heritage, with the renewal of discourses and creation, rejecting a static dimension.
- A.152 Temporary Architecture and Permanent Architecture do not correspond to two distinct models of approach, but on of to two sides of the same coin. The equation of renewal is however always difficult to solve: how, when, and why should non-ephemeral public art appear?
- A.153 When we consider the challenges of the city, we can say that the city has changed because citizens have also changed. On the one hand, the need for encounter and representation remains; On the other hand, the durable structure of the city came to prove that it is able to occupy an active place where the people come together to participate in the urban process, producing an experience that is incorporated into

31 This group of architects, called Assemble, was in Porto in 2016. According to journalist Mark Brown, «Judges praised what they called “a ground-up approach to regeneration, city planning and development in opposition to corporate gentrification”. The winning citation added: “They [Assemble] draw on long traditions of artistic and collective initiatives that experiment in art, design and architecture. In doing so they offer alternative models to how societies can work. The long-term collaboration between Granby Four Streets and Assemble shows the importance of artistic practice being able to drive and shape urgent issues.”» (Mark Brown (07-12-2015), «Urban regenerators Assemble become first 'non-artists' to win Turner prize», The Guardian, URL (URL consulted on March de 2017): <https://www.theguardian.com/artanddesign/2015/dec/07/urban-assemble-win-turner-prize-toxteth>

the city itself. It should be noted that a city is a repository of stories of successive generations and a repository of culture.

- A.154 Temporary Architecture and Permanent Architecture should run in parallel in the context of a city, because both fill different aspects of the human condition and play against each other in time and space, contributing to the construction of a future memory. Thus the success of a city is measured precisely through its future memory.
- A.155 The progressive transformation of urban spaces is essential. Due to some abandonment of the public space, ephemeral actions may be the best tools for reinventing those places making them more attractive for housing, commerce, and investment. Although temporary, a cultural program for a city has the power to transform it, bringing the main actor – the people who live and enjoy it – up to the stage, adding life to the streets, as well as a sense of belonging and even pride to it. This effect is important because it also defines the DNA of the city.
- A.156 The very exercise of Architecture is changing. If problems change, they will also have to change methods, so it is natural that the tools and the solutions also change, at least to some extent.
- A.157 City Councils should analyse signs from social, cultural and economic fabrics, to better consider manifestations of architecture and temporary art.
- A.158 The association Critical Concrete was founded in 2015 and its activity is based on three pillars: students, local community, and mentors (designers, architects, engineers and technicians). This association intervenes in the rehabilitation of social housing and in the realization of theoretical and practical workshops. Students are involved from project design to execution and the exchange of information to recover spaces. Last summer, for example, a house was rebuilt in Bonfim, using sustainable building techniques. Other actions are ongoing and being planned right now.
- A.159 The identity of the people will not be lost with the concreteness of the projects if these projects are lived and felt by them. The projects carried out by Critical Concrete Association are a very good examples of this.
- A.160 Temporary Architecture plays an essential role in developing the citizen's senses of belonging to the city.
- A.161 It is estimated that about 60% of the success of a given event is associated with the quality and effectiveness of the communication around it.
- A.162 It is important to already have studies that mark the way the city develops, especially in initiatives to renovate buildings for hotels and local accommodation, which should be properly balanced with the housing.
- A.163 Several islands are being purchased for local accommodation via Airbnb. This reality poses some challenges to the recovery effort if the use of recovered housing in the

near future is to be reconciled with its long-term use, which may be of a different nature ³². Within this context the mixture of the Art with Architecture may be a creation of interest factor and increased appreciation of the spaces recovered, prolonging in time any temporary character that may exist.

32

The city should be able to react to a significant decrease in tourism if and when it occurs. In other words, the city must be resilient.

B. Suggestions

- B.42** It is important to conduct sustained technical studies to mark the way the city develops. This is especially important in initiatives for the requalification of buildings for hotels and local accommodation, which should be properly balanced with housing. These studies may be carried out in partnership with universities in the city, including Masters and Ph.D thesis ³³.
- B.43** Porto's City Council should analyse the signs that coming from the social, cultural and economic fabrics, in order to better being able to consider the diverse manifestations of Architecture and temporary art.
- B.44** Projects such as the ones of Critical Concrete Association deserve increased attention from the Municipality. Possibly, they should begin to be thought of in a social economy framework, contributing to the transition between the temporary and the permanent.

10.2

Talk 24/01/2017



Urbanism

Moderator

Manuel Correia Fernandes

Speakers

Gabriela Vaz Pinheiro

Álvaro Domingues



Motivation

- What challenges of transformation of the city are identifiable with urbanism?
- What answers has urbanism given to these challenges?
- How does urbanism relate to innovation?

A. Summary

- A.164 Sketching a city has a lot of topicality both in Porto and Worldwide. In fact, the more general question of “living on Earth” is of great importance and not just because of climate changes. The ‘City’ is often identified with Polis and is the place where people live. It is also a place where urbanism develops since the 19th century. If we look in particular at the activity of ‘Sketching the City’, we note that, although this activity includes an important technical component, it is a result of political decisions taken by citizens rather than by technicians, who are naturally responsible for interpreting these ideas in the city.
- A.165 The current concept of the city includes three essential components: the Polis, Civitas, and Urbis. Polis means “city-state”. In Ancient Greece, the Polis was a small territory located geographically at the highest point of the region and whose characteristics were equivalent to a city. The emergence of Polis was one of the most important aspects of Greek civilization. Constituted by an urban cluster, the concept of Polis covered the whole public life of a small territory that was generally protected by a fortress. It comprised all citizens, except slaves and members of subjugated populations, and distinguished itself from the other cities by the name of its inhabitants. The Polis has to do with modes of social regulation because it is a system of social organization. Urbis collects everything that is built, including buildings and infrastructures, and Civitas concerns social groups, training and the exercise of citizenship. Nowadays these three components remain in a completely different position. When we consider this perspective, we can say that instead of ‘city’ we should possibly refer to ‘human condition’, because the word ‘city’ also includes all aspects of organization and regulation of human activities that concern it.
- A.166 In essence, cities are atmospheres or ambiances: Its architecture, its public and private spaces, occupied or not, its people, its culture ... In order to Sketch a city, it is, therefore, necessary to understand well its atmosphere or ambience.
- A.167 The Art provides many possible ways to activate the public space. However, it may be preferable to refer to ‘public in space’ rather than to ‘public space’. Although in Portugal there is no tradition in the introduction of artistic practices into the daily life of a city, it should be noted that they have an immense power in terms of influence.
- A.168 In the historical origin of urbanism there are the “plotters”, a designation applied to the technicians who conceived and designed the routes of the streets, also promoting and regulating the use of public spaces. Currently, urbanism concerns almost the entire population because almost the entire population is urban.

- A.169 After 25 of April 1974, Portugal adopted a number of urban planning models and practices that were well established in central and northern Europe. Thereafter, urbanism enters an accelerating phase. In a very short period of time, Portugal modernized itself extraordinarily, since the context from which the society came was then very poor.
- A.170 We are currently experiencing some of a counter-cycle period, in which the State has been withdrawing itself from many of the policies, instead betting on public-private partnerships. In this period, urbanism lost some of its social function.
- A.171 Urbanism is a concept in constant redefinition. It is not a technical rhetoric, not a technology, nor a rhetoric of laws. It is politics, decision, and legitimacy.
- A.172 Urbanization has been already a bit of everything. It was born in the nineteenth century and has since been producing atmospheres or ambiances that characterize the way we live together. It has already been the production of socio-technical systems, from sanitation networks to fibre optic networks, from public slaughterhouses to hotspots. It has already been at the service of war, because cities were part of the war machine, as is easily proven by centuries and centuries of walled cities. It has already been an instrument of social control, as in Paris. It has already served to make social regulation, through the moorish neighbourhoods, former leper hospitals and elegant neighbourhoods in more recent times ... In general, we can say that urbanism mediates between atmospheres or ambiances and the awareness of common spaces.
- A.173 In a recent survey to Porto's residents about which problems or issues are the most important to address in the city, the most principal answers were: empty houses, poverty, solitude, employment, and only then came the more typically urban issues. For example, in the central part of Porto's city alone there are more than 2,000 people living in solitude who depend on near-daily support visits to survive. This dimension of the city has to be reconciled with other more conventional dimensions. How to sketch the city in this context? This is a difficult challenge, even because we live in very contradictory times. Suddenly, the tourism boom coincides almost with a phase in which the old Port is still very degraded, which leaves people a little stunned and disoriented. There is not enough detachment to process and digest these contradictions. As if that were not enough, the geographic space affected is tiny.

- A.174 What is the city and society in Porto prepared for? This is a question that should make us stop and think.
- A.175 The city has been evolving in an interesting and extremely dynamic way, with new populations to go settle in the more degraded areas and do invest in the recovery of the degraded buildings.

B. Suggestions

- B.45** It is crucial to attract investment to the city not only to restore the built heritage but above all to set up companies that compete in international markets and create job opportunities and qualified employment through the value they are able to create. The establishment in the city of such a corporate network will do a lot for the resilience of the city in the medium and long term ³⁴.
- B.46** It would be important to characterize carefully the tourist who visits the city of Porto. At the moment we do not have this characterization sorted out. Moreover, the lack of reliable and up-to-date data constitutes a limitation to the more informed and sustainable decision-making. These studies may be carried out in partnership with the higher education institutions assigned to the city through masters and Ph.D theses.
- B.47** Instituting the daily municipal fee of 1 euro to be applied to each overnight stay in the city, thus this will reinforce the Municipality's financial capacity to intervene in the city, for example, in the scope of the acquisition of real estate, its recovery and allocation to the purposes considered by the Municipality Relevant in each context ³⁵.

34 See point B.82 ahead.

35 See point B.61 ahead.

11

Talk 25/01/2017



What kind of city do we want?

Moderator

Manuel Aranha

Speakers

Fernando Brandão Alves

Lúcia Rosas



Motivation

- How to articulate the city's identity and the well-being of its inhabitants with the introduction of new functions and dynamics?
- Which solutions are being considered for the city of the future? For instance, how is tourist loyalty being articulated with the inhabitants' well-being?

A. Summary

- A.176** Porto is a city of belonging. People are eager of their territory and their way of life. When there are external factors that may interfere with this belonging, people feel affected, immediately questioning how they can balance and resolve the tensions they feel emerge.
- A.177** Often the best way to replace an established model is not to fight it head-on, but to create a new model that has clear benefits that lead to its adoption by people. Thinking about the future, the best model a city can adopt is the model of a socially inclusive city, that is, a city in which everyone counts in the same way. This means that the city is very well planned to walk by foot and can benefit from effective public transport. The city also has to be regenerative and resilient, that is, designed to respond in a regenerative and resilient way to the situations³⁶. The city we need must also be economically vibrant and inclusive. In social terms, the city we need must have a unique identity and a sense of place. It has to be safe, healthy, affordable and equal. Finally, the city we need has to be managed at the metropolitan level, that is, it has to coordinate sectoral policies and actions with neighbouring municipalities. Communities and neighbourhoods are active participants in metropolitan decision-making. The fulfilment of these designs is the most important challenge facing the construction of a successful city.
- A.178** Concerning the articulation between tourists and residents, there are several aspects that should be emphasized. Tourism is of great importance and creates many direct (1x) and indirect (1.5x) jobs. In Barcelona, for example, tourism accounts for 15% of the city's GDP. However, most people who do urban tourism practice limited tourism in their interaction with the city.
- A.179** As hosts of tourists, residents should look upon the city as an almost sacred place that has to be enjoyed, protected and celebrated for its uniqueness. It's their home, even though it's open and inviting to visitors. Operators, in turn, should look at their clients as people who want to experience new realities and even 'psychological cures'. We do not want to have too much tourism but a better tourism.
- A.180** To repair damages and make improvements, will there be taxes that can be charged to resolve what is needed? Porto is not currently in a chronic phase of over-tourism, let alone in a 'phase of spoilage'. However, it is advisable to think about these issues and take some preventive measures³⁷.

36 See note 32.

37 See points B.47 and B.61, for example.

- A.181 We must divert some of the tourist pressure from the historic centre, housing tourists in other areas and providing different conditions suited to specific niches, such as youth, senior tourism... This requires the implementation of a collaborative management involving parish councils, associations and other groups of interest.
- A.182 The city of Porto has a privileged location, which allows to expand the areas most sought out by tourism beyond the historic centre. This circumstance is important because there is a great tendency to transform the historic centres into theme parks, which takes away historic thickness from the cities and gives them artificial senses. In this type of cities a lot of nostalgia is projected, which is not appropriate to a real and dynamic vision of the life nor does it contribute to attracting the kind of tourism that would be more interesting for the city, since this is a tourism that values life and authenticity.
- A.183 The re-qualification of heritage plays an important role but also carries a lot risks for the city. In particular, the requalification must maintain the character of the original buildings up to its interior, where this interior deserves enhancement and protection: staircases, stucco, frescoes ... The requalification must adapt to the buildings we have and not destroy what is good, makes us unique, defines our sense of belonging and certainly our character.
- A.184 «O Guia da Paisagem Histórica Urbana de Sevilha» that is «The Guide to the Historic Urban Landscape of Seville» is a collection of volumes that can be downloaded online and which addresses an integrated strategy that has been followed in the city of Seville. This strategy could be partly adapted to Porto.
- A.185 Porto has the privilege of having many agents interested in these problems, such as the City Hall, universities, and companies. The city also benefits from the fact of being late in this path. This delay has prevented great damage, so the potential is immense.
- A.186 The city of Porto is the gateway to the Douro region, which is, in turn, a magnificent gateway to high-quality tourism. In this context, the city of Porto is in a privileged position regarding the possibility of finding different opportunities for different niches of tourism, calling for itself its regulation. It is worth noting the enormous effort of the private investors with the investments that have been made in the city in local accommodation, cafes, bars, restaurants, shops ... giving excellent examples of exceptionally well-executed recoveries that preserve and expand the original character of the spaces.
- A.187 Security is an aspect of growing importance for the development of the city. Human resources allocated to security means should be discreetly more visible and better trained. However, it is very interesting to note that Porto is a relatively safe city, despite

the limited means of security that it has. The professional training aspect of security agents is especially important in order to build trustful ties with the population and better support a type of tourism that brings more economic and cultural value to the city. Security officers should not limit their action to intervention in situations of danger; They must also be reliable partners in ensuring a civilized and harmonious space that can and should be enjoyed by all. On the other hand, its more regular intervention must be guided by discretion and effectiveness.

B. Suggestions

- B.48** Regulate the requalification of buildings in order to maintain their original character, also with respect to the respective interior spaces when there are elements that deserve enhancement and protection: staircases, stucco, frescoes ... The requalification must adapt to the buildings we have and not destroy what is good, this makes us unique and defines our sense of belonging. This type of requalification may contribute to attracting tourism of a greater economic and cultural value to the city.
- B.49** To promote studies by students of higher education on the requalification of public spaces, namely in the area of proximity accessibility, including gardens and green spaces, to improve people's well-being, measured in terms of comfort and safety parameters.
- B.50** Studying the "Guide to the Historic Urban Landscape of Seville", a set of volumes that can be downloaded online and which addresses an integrated strategy that has been followed in Seville, which could be partly adapted to Porto.
- B.51** Organize and promote the best craftsmen that exist in the city and contributing to that their knowledge and skills are passed to the new generations, actively involving agents of culture in this process such as museums and some schools ³⁸.
- B.52** The tourist promotion and entertainment activities for tourists have their peak in the summer, being sparse during the winter. It is recommended that in the winter there are also more activities of that content. It would be considered a priority investment in culture during autumn and winter, and leisure in spring and summer.
- B.53** Security is an aspect of growing importance for the development of the city. Human security means should be more abundant, more discreetly visible, and better trained. However, it is very interesting to note that Porto is a relatively safe city, despite the limited means of security that it has. The professional training aspect of security agents is especially important in order to build trustful ties with the population and better support a type of tourism that brings more economic and cultural value to the city. Security officers should not limit their action to intervention in situations of danger; They must also be reliable partners in ensuring a civilized and harmonious space that can and should be enjoyed by all. On the other hand, its more regular intervention must be guided by discretion and effectiveness.

12

Talk 26/01/2017



Rehabilitated Porto?

Moderator

Manuel Pizarro

Speakers

Nuno Grande

Vasco Freitas



Motivation

- What are the needs of urban rehabilitation?
- Which solutions have been implemented to address such needs?
- How has the rehabilitation been articulated with the new functions introduced in the historic centre?

A. Summary

- A.188** A city is much more than its buildings and the urban rehabilitation is much more than the rehabilitation of buildings. However, there is no rehabilitation if there is no rehabilitation of the built heritage. The rehabilitation of the city thus has to be characterized by a comprehensive view of the city. This comprehensive view should embrace not only the different areas of the city but also their different cultures.
- A.189** Porto has several cities within it. One of them, the oldest one, corresponds to the historic Porto and is currently under intense pressure for usufruct and investment. Over the years, other cities have been growing inside Porto and their buildings have different constructive characteristics and therefore require different approaches. Investment and rehabilitation strategies should not be too concentrated in the old part of the city to the detriment of other cities within the city. These include condominium buildings constructed mainly from 1960 to 1990, which are buildings that do not yet have the desirable qualities from the point of view of comfort and energy efficiency. This heritage is private but, if not encouraged to be rehabilitated, will decline rapidly because of these buildings, with multiple owners, have condominiums decapitalized. This situation occurs for several reasons, of which two stand out: (1) the legislation imposes a very limited condominium reserve of only 10%, and (2) families, for a varied set of reasons that should not change significantly in the next few years, are unable to invest more in the capitalization of the condominium. However, this urban heritage is too important to be forgotten, and an excessive concentration of rehabilitation in the older part of the city cannot be allowed to occur, to the detriment of rehabilitation of other parts of the city.
- A.190** We will have to find in Porto some auxiliary strategy, some kind of incentive, that will stimulate the recovery of the mentioned thousands of condominiums. IMI – The Municipal Immovables Tax, could play this role through some compensatory model, as long as that the owners reinforce the capitalization of the condominium.
- A.191** In Portugal, there are about 800 thousand buildings built until 1960, 1.5 million buildings built between 1960 and 1990 and one million buildings built after 1990.
- A.192** Another essential aspect related to rehabilitation is energy efficiency. In central and northern Europe, comfort and energy efficiency models are appropriate for those regions, as it is necessary to consume energy continuously over time to ensure the comfort of the people who live and/or work in those buildings. Thus, as energy is continuously consumed, it makes sense to consider solutions that minimize energy consumption. In other words, it makes sense to talk about “saving energy” when we consume energy on a regular basis. In Portugal, and particularly in Porto, these models are not generally adequate because the situation is usually different: it is not

necessary to consume energy in a continuous way in time to guarantee the comfort of the people who live and/or work in these Buildings. In fact, in a building where no energy is consumed for continuous heating – because the mild climate allows it – it does not make much sense to significantly reinforce insulation that contributes to energy savings. You do not save energy when you do not consume energy. For the climatic, economic and cultural realities that characterize the city of Porto, a model should be found to mitigate discomfort, improving the efficiency and coherence of the buildings' energy response. How far is it worth going? To illustrate this point, the best strategy for buildings in the historic centre is to put thermal insulation on the inside, which means reducing thermal inertia, making it easier and quicker to heat the areas that are inhabited during the winter at the expense of increasing the discomfort at summer. With measures of this type, families who opt for this solution benefit in the winter, but they still suffer in the summer.

- A.193** Similarly, it makes no sense to incorporate into a building all the systems that are legally required to achieve A or A + energy rating. It does not make sense for a number of reasons, of which we highlight the following: (1) a high initial investment, (2) a direct benefit from that investment that is economical, comfortably or usefully questionable. For each constructive typology, it should be based on a guide of good practices regarding energy efficiency, bearing in mind the return of the investment in the framework of the desired level of comfort or accepted discomfort.
- A.194** Adequate house ventilation is essential because it has implications for people's health.
- A.195** In the city of Porto, we have to ensure a strong dynamic of housing spaces and schools. If these spaces do not exist in considerable quantity, the city runs serious risks. Tourism is a remarkable engine but it has to be articulated with a strong dynamic of housing and schools so that the city is balanced.
- A.196** It is necessary to map the city, considering what has already been done and with what function, what is planned to do and with what function, what still needs to be done and with what function, although it is not foreseen. This mapping is extremely important in influencing and even guiding investment and rehabilitation.
- A.197** It is advisable to regularly inspect the city buildings and characterize them on the basis of simple but useful indexes
- A.198** A huge risk for Porto in particular and for Portugal, in general, is the literal consideration of European pressure to ensure zero energy balances for each public building. This requirement is absurd for our reality, for the same reason that a 50-year-old car cannot be required to perform equivalent to newly manufactured cars. Reduced or zero energy balances, for our reality, doesn't make sense to be considered at the level of

an individual building, but rather at the level of a city or a region and even then only when integrated over a period of time so that the average values that are obtained have meaning and utility. In other words, the energy balance only makes sense when it is integrated into space (covering a zone) and in time (covering a period).

- A.199 Rehabilitation has been for a long time limited by regulation and aimed at new constructions. However, the Exceptional Regime for Urban Rehabilitation (RERU) has a huge disadvantage because of it flexibilizes too much, removing Architecture and Engineering from the processes. In 2020 the RERU will be finish and it we will enter again this temporary stand-by.
- A.200 Instead of talking about 'rehabilitation', we should probably be talking about 'rehabitation'. It was at Porto 2001 that was left an important legacy to the city, which began to carry out this debate seriously. In two or three years, it was possible to rehabilitate a vast set of buildings, an initiative followed even by private investments.
- A.201 The Metro brought these issues back to the city. The stations, designed with consistency, are authentic monuments of the city. And the Metropolitan is, in fact, Metropolitan, because it interconnects varied zones of the urban space and the neighbouring cities.
- A.202 Urban rehabilitation societies were a political initiative. However, the logic of rehabilitation began by seeking to ensure "luxury rehabilitation", which seems wrong because it pulls away most people. Unfortunately, the necessary market study was not done initially nor was the strategy most appropriate for the city. To make matters worse, many façades became too artificial with constructive solutions – such as window frames – that purported to achieve A's energy rating. The end result, in many cases, was a kind of Disneyland, as can be seen at the top of R. Mouzinho's Silveira.
- A.203 We should prevent Porto's historic centre from becoming a theme park for politicians to reward. Fortunately, new merchants in the city have understood that the existing heritage can be renovated to create stores and spaces with immense aesthetic value. Many of the high-quality initiatives that private companies have done have been a model and an inspiration so that others may do the same as well.
- A.204 Porto reached 9 million visitors in 2016, with more than 6 million overnight stays. In many ways, the city has been dormant for 10-12 years and has now been reborn full of vigour through the marketplace. However, problems have arisen. For example, 75% of Airbnb solutions available in the city occupy an entire building. Of the 4208 dwellings that exist today in the city for Airbnb, almost all have typology T0, T1, and

T2. We are transforming the city into T0, T1, and T2, which will not be very inviting for families one day in the future when tourism fades away ³⁹.

A.205 The Municipality should leave from a policy that is oriented to “city users” and enter into a policy that is oriented to the old and new city tenants. These are the last ones that define the DNA of the city. A tourist who visits the city and does not see inhabitants does not return to the city. It is the inhabitants of the cities that make the difference of the cities.

A.206 The city will evolve towards becoming an ‘intelligent city’. The best way to test solutions is to run very fast pilots that allow an accelerated learning. This perspective is especially useful in the consideration of renewable energy solutions.

B. Suggestions

- B.54** In the city of Porto, we must ensure a strong dynamic of housing spaces and schools. If these spaces do not exist in considerable quantity, the city runs serious risks. Tourism is a remarkable engine but it has to be articulated with a strong dynamic of housing and schools so that the city is balanced.
- B.55** To encourage the rehabilitation of the thousands of condominium buildings that exist in the city, typically constructed between 1960 and 1990, we will have to find some auxiliary strategy, some kind of incentive, that stimulates the recovery of these buildings. IMI – The Municipal Immovables Tax could play this role, for example through some compensatory model indexed to the capitalization of the condominium that the owners realize.
- B.56** Critically and fiscally regulate the licensing of works for local accommodation.
- B.57** It is necessary to map the city, pondering what has already been done and with what function, what is planned to be done and with what function, what still needs to be done and with what function, although it is not foreseen. This mapping is extremely important in influencing and even guiding investment and rehabilitation. Universities in the city should be challenged to carry out mappings of this kind, possibly at the level of masters or doctoral theses.
- B.58** It is advisable to regularly inspect the buildings of the city and make their characterization based on simple but useful indexes.
- B.59** For each constructive typology, the Municipality should be based on a guide of good practices regarding energy efficiency, bearing in mind the return of the investment done in the framework of the desired level of comfort or accepted discomfort.⁴⁰
- B.60** The Municipality must leave the policy oriented to the “city users” and enter into the policy oriented to the old and new city tenants. These are the last ones that define the DNA of the city. A tourist who visits the city and does not see inhabitants does not return to the city. It is the inhabitants of cities that make the difference on the cities.

- B.61** Create and apply a tourist tax for each overnight stay in the city, valued at 1 euro per day, of which some 60% will support the purchase of real estate by the City Council under a right of option ⁴¹. Rehabilitate and place these properties in a fair rent market. Major benefits (IMI – Municipal Immovables Tax, ITS, parking ...) for those who live in the city.
- B.62** Call housing cooperatives or moderator associations to invest in the rehabilitation of buildings and/or city blocks.
- B.63** Articulate co-housing and co-working typologies.
- B.64** Extending the new measures mentioned above to areas such as Campanhã, so that the Municipality can move forward in relation to the market.

41 An initiative of this kind is already under way. The Municipality of Porto has been acquiring, recovering and placing at the fair market a set of buildings. At present, there are 17 buildings in the process of rehabilitation for this function, which will provide 140 dwellings of various types. The Chamber has already acquired 7 other buildings with similar intent.

13

Talk 31/01/2017



A park is not a garden

Moderator

Sidónio Pardal

Speakers

Álvaro Domingues

Paulo Farinha Marques



Motivation

- The counterpoint between the indoor and outdoor spaces in the composition of the urban design.
- The diversity of the urban outdoor spaces (the squares and the small squares, the avenues, the roadways and patios, and the inner parts of the quarters with gardens and vegetable gardens).

“The garden is the domestic space of the house and both are a shelter, a refuge from a hostile outside. On the other hand, the park is the re-encounter with paradise in the sense of a safe, open territory designed to make the idea of natural beauty come true. The garden, according to the hortus inclusus concept is a space apart from the world, which claims privacy and distance. On the contrary, the park aims at embracing the world as a free, shared space, fostering the encounter, the conviviality, the contemplation and the pleasure of being there” [Sidónio Pardal](#)

A. Summary

- A.207** Finding out what Google refers to about the City Park, we find that there is a very unanimously positive opinion. One notable aspect that is repeatedly mentioned is that the City Park has an immense capacity to reduce “noise”⁴² and conflict. The City Park is a work of civilization.
- A.208** At time, there was some confusion between the concepts of countryside and the city. The use of granite in buildings that emerge in the park, for example, creates remarkable ambiances. The countryside is, in fact, more of a state of mind. Nowadays, the concepts of rural and urban are more associated to representations than to realities, given the ease of representing the rural in urban or urban environments in rural environments.
- A.209** There are some doubts about what Nature means. Historically, there are those who point out that Nature is a creation of Science. In a certain scientific perspective, it is difficult to think of the independent existence of Nature. Often, even a supernatural order is invoked to speak of Nature. It may be said that there is a “first nature” associated with the reality of origins similar to that which would exist in the gardens of Paradise; Another would be “Domestic Nature,” much more so on our range. This second nature poses very curious ethical questions. Advances in Science make this second nature a human creation. This is a very manipulated Nature. The third Nature is an aesthetic Nature, which is not evaluated by scientific metrics but which is oriented towards the game of the senses. Aesthetics has to do with everything we are capable of feeling.
- A.210** The idea of public space deserves a clarification. The City Park is a socially exposed work and is the true theatre of public space in the sense that it reveals what we see in others and what others see in us. This game of public space is a society game.
- A.211** In Central Park, in New York City, there are the most varied businesses. This park is also a scenario and a place of public expression
- A.212** Nature reflects the tension between Man wondering at what Nature feels outside his influence and the “works of art” that Man develops and puts in it, influencing and shaping it.

42 Here, the word ‘noise’ is used not in its usual meaning associated with sonorities of various types, generally disturbing but with a broader meaning of any unwanted disturbance, of all that negatively affects the attention and rest of a person.

- A.213 The parks and gardens have the representation of a domesticated Nature. We feel the softness in the touch. This starts from small scales, beginning with gardens and vegetable gardens, culminating with larger spaces that best represent the Nature that we feel is external to us – the parks. This evolution of scales and representations illustrates how the human being works with great plasticity the vegetal world that surrounds him, to form spaces of fruition.
- A.214 A park will allow the appropriation of the concept of public space, forming spaces of peace. The sprinkler irrigation has democratized this concept. While in a garden everything is contained at the level of great specificity and control, in a park man is freer to move and take pleasure, reaching higher levels of well-being. While a garden comes from agriculture, a park comes from the great hunting grounds. Interestingly, in a park is excluded Nature (wild animals that can be hunted, for example), with the intention of celebrating Nature.
- A.215 The City Park provides the satisfaction of basic public health needs. For example, from spring onwards, the park is visited by thousands of children from many schools in Porto and its neighbouring, because schools with green spaces are rare.
- A.216 The Oriental Parque will be the target of an intervention worth 10 million euros, including the remediation of the Tinto River. This is one of the major projects aimed at boosting the Campanhã area. Other areas that already have been identified as being in need of intense intervention are the República and the Corujeira area.
- A.217 Redesigning the city is very difficult due to the crystallized heritage. The country has an immense amount of abandoned and/or dysfunctional heritage. There are tens of billions of euros imprisoned in failed works that will never be completed. Moreover, these works are subject to infernal regulations. The financial system has a very high level of responsibility in these situations since the system is highly bureaucratized and corporatized. To a great extent, the country is paralyzed because it cannot adapt to the new circumstances. This is a widespread problem. On the other hand, the housing policies that come way back from the 1960s – the so-called social neighbourhoods – are areas of exclusion. The model of the neighbourhood makes people ashamed to say they live there. The question that must be answered is: when will it be possible to renovate that neighbourhood? The Porto City Council has already taken some initiatives with great courage, particularly to tear down and do it over again.

A.218 There is a remarkable law of 1864, written by João Crisóstomo, for Lisbon, which stipulates that the Lisbon City Council is entrusted with notifying the owners of all abandoned or ruined buildings which they are obliged to build within two years. If they do not want to build or even do not build in this period of time, the City Council will provoke a forced sale: so the building goes for sale in the market and the value that the market makes will then go to the owner. The buyer of the property has two years to build. If those who buy have not built after the two years, it is because they bought in bad-faith, because they were aware of the commitment made on the first sale by the market. In that case, the building then goes back to the public auction and in that sale its owner receives only 80% of the value of the sale, reverting the remaining 20% to the City Hall. This ancient law, in fact, contains immense wisdom and should be applied in the city of Porto, for example.

B. Suggestions

- B.65** Create small green spaces in residential neighbourhoods of the city, establishing nearby parks. These spaces need not to be extensive to play an important role in socialization. This kind of initiative also plays an important role in proximity and accessibility. A small green space with half a dozen well-chosen and laid-out trees, with well-framed benches that facilitate interaction between people, can play important roles in socializing and in the enjoyment of nature.
- B.66** Implementing actions to not allow green spaces to become areas for the pollution of pet excrement.
- B.67** Considering the possibility of legislating as João Crisóstomo did in 1864 to the city of Lisbon, extending this type of legislation to the city of Porto.

14

Talk 02/02/2017



Water and the city

Moderator

Filipe Araújo

Speakers

Joaquim Poças Martins

Frederico Fernandes



Motivation

- What are the challenges of Porto in which concerns water supply?
- Which solutions have been implemented?
- Concerning water treatment, collection and re naturalisation, what have been the challenges posed and which solutions have been implemented?

A. Summary

- A.219 The water management entities are under considerable pressure. Water quality, scarcity, aging of infrastructure and other issues are factors of pressure. If Águas do Porto has the excellent performance that it has nowadays, the root of success is the initial constitution of separative networks in the city ⁴³. In addition, the company also manages the entire urban water cycle with the exception of its purchase, which contributes to its efficiency.
- A.220 Today, innovation trends are clear. In the first place, it will increase the digital component of monitoring and management of water networks, which will put considerable pressure on the training requirements of management companies. For example, an ongoing challenge in Águas do Porto is the great project to develop a technological platform that will integrate water, sanitation, and rainwater distribution networks and that, by enabling the remote control and management of each of these networks, will allow checking the status of each of these networks at any time through a control panel ⁴⁴. It will also enable weather-related modelling to predict network response and scale assistance services, as well as to facilitate the identification of situations that should be considered for future investments.
- A.221 Telemetry is proving to be of the utmost importance, as it allows for more rigorous billing. Telemetry also allows users to access their consumption profile and water quality, in addition to allowing effective contact between the company and its customers.
- A.222 '3D Printing' technology could provide a high level of flexibility to the service water networks.
- A.223 Curiously, in the floods of the Douro River, the water level never reached the level of the lower board of the D. Luís bridge. The bridge was designed according to the best engineering data available at the time, although there was no mechanism to control the river flows. Throughout the river's course. ⁴⁵

43 The water networks – supply, sanitation, pluvial – are separated, each one having its own conduits.

44 An essential aspect of integrated management.

45 Between 17 and 25 December 1909, there were the largest floods ever caused by the rise of the waters of the Douro River. Due to intense rains, the water level of the river reached 80cm from the bottom board of the D. Luís bridge. As the flow of the river exceeded at 18km / h, this mass of water in motion could be enough to make the bridge collapse. So that the cutting and destruction of the lower deck of the bridge was programmed, through teams placed on both sides, equipped with explosives and torches to cut the irons. The highest risk occurred with the high tide at noon on December 23. Fortunately, the arrival of an additional telegram from Régua announcing a slowing down of the water level removed the need to destroy the lower deck of the bridge.

- A.224 Currently, there are no water problems in Porto, which is the best compliment that can be made to the Águas do Porto. The customer is satisfied.
- A.225 The National legislation makes it very difficult to reuse water. As public health risk may be appreciable, at least in principle, there is understandable prudence in this regard. In the future, there will be sewage treatment plants connected to water treatment plants and much of the water supplied to consumers will be recycled.
- A.226 Probably in the future, homes will once again be autonomous in terms of energy and water. Homes will thus have a higher level of embedded technology and investment in public networks will tend to be lower.
- A.227 Currently, the water supply to the city of Porto depends largely on the Douro River. However, it is possible to increase the reliability and resilience of the water distribution system by improving the connections with the waters networks that exist in the countryside and in the River *Cávado* water system. The investments required for this are reduced and some of them have been realized.
- A.228 The city of Porto is an example of international excellence in the distribution, control, and management of water networks.
- A.229 The expected climate changes for the city of Porto at the end of the current century will impose difficulties for which the city has to be attentive. For example, an average temperature increase between 1 ° C and 4 ° C, a maximum temperature increase of 4 ° C to 5 ° C, and an increase in sea level between 35 cm and 82 cm is foreseen. In addition, the city is expected to have a 22% average precipitation, with a 12% increase in precipitation during the winter. Summer periods will tend to be much drier.
- A.230 There is a current effort to bring to the surface the many streams of Porto that are tubed (75% of the total 42km of existing streams). See point B.75 ahead.
- A.231 A major effort has been made to monitor the flow and quality of the water circulating in streams, in order to detect the source of problems and act promptly.
- A.232 The Águas do Porto is installing photovoltaic panels and acquiring electric vehicles, with the aim of becoming a more sustainable company. As a municipal company that it is, the Águas do Porto has allied itself with the City Hall in solving important problems of the city, being available and interested in adopting innovative solutions.
- A.233 A theme that deserves special care is the sludges, which attract numerous seagulls to the banks of the river. Because they consist of highly contaminated material, sludge requires specialized removal, transportation, and treatment.

At the moment, they are being converted in materials of great value for the agriculture in the premises of LIPOR.

A.234 The *Rio da Vila*, a port stream that flows into the River Douro, which tells the history of the city, is being rehabilitated, as are other elements of the water heritage, such as the *Arca d'Água* underground, which are very beautiful.

B. Suggestions

- B.68** Promote Porto's water in cafes, restaurants and city hotels, to be served in bottles with the special design that has already been developed by the Águas do Porto. This water could be accompanied by a micro-brochure attached to the bottleneck of the bottle, explaining in Portuguese and English its origin and quality, drawing attention to the excellence of this important heritage of the city that all people should know ⁴⁶.

15

Talk 06/02/2017



Networks and technology platforms

Moderator

Paulo Calçada

Speakers

Ana Aguiar

Susana Sargento

Ricardo Machado



Motivation

- What are the examples of innovation in the networks of Porto city?
- What are the foreseeable evolutions?

A. Summary

- A.235** Digital is rapidly entering the lives of people and businesses, and the digitization of all kinds of processes is occurring at many levels and in many different ways in society. One of the aspects to consider, for example, is the emergence of a service economy with digital support. The issue of 'digital cities' is a subsequent one, as it relates to the next step in the evolution of the digitization of a society: people, things, and processes start to gain some kind of reality in digital life, which is, we can even say, a New form of human existence on Earth.
- A.236** The concept of 'digital cities' encompasses several different realities: on the one hand, the digital service of entities that plan and manage cities, such as city councils, parish councils and other entities associated with the exercise of political power at a municipal level or metropolitan and, on the other hand, digital in the service to companies that can provide a whole set of services in digital form.
- A.237** We use the adjective 'smart' to refer to everything that is measured and managed automatically. A smart city is a city in which many of the essentials that determine the quality of life that characterizes it, as well as the effectiveness of many of the most relevant processes that occur in it, are treated and controlled automatically. Societies are still far from this reality, which will occur in the future. It should also be emphasized that an intelligent city can only exist with intelligent citizens. Although this is an obvious observation, it cannot be overlooked.
- A.238** In the future, each person will have at their disposal a 'communicating device' which will probably include sensors or be in contact with a network of sensors. These devices will enable people to communicate in a variety of ways and for a specific purpose.
- A.239** When we want to engage people in digital processes, there is always a question of how best to engage them. In this context, one of the most salient concerns of citizens is the guarantee of privacy of the information they share. Often, however, what is meant by 'privacy' is often confused with 'anonymity', which is a different feature. The concept of anonymity is much less restricted than the concept of privacy⁴⁷.
- A.240** An intelligent city is a city that is steeped in a sea of information that can be provided to citizens in specific ways so that they can make better-informed decisions and raise their level of comfort. Underlying these considerations are the business models that can be considered and implemented to explore opportunities built on this information.

47 In a situation of privacy, people are reluctant to provide information that concerns them. In an anonymous situation, people are open to providing information that concerns them as long as it is guaranteed that it is not possible to associate this information with the people who are at the origin, thus not allowing their identification.

- A.241 Nowadays we still have a long way to go before having the city equipped with several types of sensor networks that allow data collection. These data will have to be processed to the extent that they can – in whole or in part – be made available to citizens through value-creating applications.
- A.242 What kind of response do the chambers have to give to their citizens? For example, providing sewage sensor pipes to characterize waters in certain parts of the city can provide valuable information to enable the municipality to intervene more swiftly and effectively in the public health ⁴⁸.
- A.243 The availability of information raises difficulties. For example, if detailed information on real-time pollution is made available, an insurance company that knows the data may increase the premiums of the health insurance policies of people living in that part of the city. One observation: it only makes sense to provide a city with sensor networks if there is a clear intention on the part of the Municipality to use this information to detect problems and to correct them in order to improve the quality of life of its citizens. In all situations of this kind, the quality and effectiveness of communication with people are essential so that they understand the advantages that certain solutions or services represent for themselves.
- A.244 Is it possible to reassure the citizens about the anonymity of shared data? An essential aspect to take into account is the granularity of the information that is made available to the citizen. This granularity must be determined by the type of information to be made available and the nature of the service to be provided. Presently, there is no formal mechanism available that guarantees the absolute security of the storage or the anonymity of any private information.
- A.245 It is important to note that the data only have value when they denote known processes and have an established semantics from the organizational point of view. Otherwise, these data have no value, no more than rubbish or 'noise' ⁴⁹.
- A.246 The cities are very different from each other because each ecosystem obviously has its distinctive features. Thus, although the basic tools may be common, the methodologies and applications are different. A good starting point is to create interoperability standards that ensure the interconnection of applications in larger territories, which is difficult to ensure by large companies in the sector. All these processes must begin with a top-down logic, and a clear vision of the context and the objectives to be achieved must be established in advance by the Municipality.

48 A situation of this type was implemented in London, and it was concluded that the percentage of anti-depressants consumed in a certain part of the city was abnormally high, which led the Municipality to alert the national health system to the need to carry out an in-depth study And possibly intervene.

49 Ver a nota 42.

A.247 Within this universe, the development of solutions is delivered to universities and large international companies operating in the sector. Unfortunately, there are no interoperability standards yet. On the other hand, the best opportunities for value creation at the municipal level have not yet been discovered. Within a specific set of services of interest to the Municipality, it is possible to build a very interesting platform with the aim of providing solutions for the citizens that add value to their lives and allow them to make more informed decisions. The role of the integrators is the execution of the system, guided by the vision of the Municipality.

B. Suggestions

- B.69** It is important to create a portfolio of Information and Technology at the Porto's City Council, led by a Chief Information & Technology Officer, who should plan, implement and manage resources associated with information and technology, such as geographic systems and technological convergence between areas and countries. This portfolio area would also have the responsibility of establishing the general principles that should guide the platforms that provide information of value to the residents ⁵⁰. It would also have the responsibility to create interoperability standards that would guarantee the interconnection of the applications in the territory of interest.
- B.70** Invest in the quality and effectiveness of communicating with people so that they understand the processes implemented as well as the benefits that certain solutions or services can represent for them ⁵¹.

50 This suggestion seems essential for the modernization of municipalities.

51 It is not meant to be a design effort or even marketing, but rather an effort of logic, formal correction, and clarity of language.

Towards Sustainability

16

Talk 07/02/2017



Energy efficiency and low carbon. New paradigm?

Moderator

Paulo Calçada

Speakers

Helena Corvacho

Luís Seca

Luísa Andrade



Motivation

- What are the energy efficiency requirements to which Porto should adapt?
- How is Porto adapting to the energy efficiency requirements?
- Is Porto coming closer to the international directives on this matter?
- What changes have been introduced in Porto regarding the energy efficiency and the low-carbon cities?

A. Summary

- A.248** For most people, there is no clear perception of the meaning of ‘energy’ in addition to the energy invoices that they pay. The concept of energy is not easily understood, and the imposition of the most varied taxes on the cost of energy consumed makes it even more difficult to understand the concept. In this context, institutions such as the Institute of Systems Engineering and Computers – Technology and Science (INESCTEC), in Porto, can play an important role in supporting the City Council in order to improve its relationship with its residents. Given that INESCTEC investigates this and many other topics, prior to its practical necessity, it is in a privileged position to support institutions and people of the city. An additional effort is needed to better understand many of the technical concepts involved in their lives. In this way, people will tend to value more the information that is provided to them. In the specific case of energy, such an understanding will enable people to manage more effectively the energy they consume according to their objectives.
- A.249** Portugal has been importing some models of energy efficiency for buildings that make full sense in northern Europe but that do not suit the countries of southern Europe. ⁵² Regarding this reflection, it should be noted that the best way to live is to “live with intelligence”, that is, thinking intelligently, scientifically correct, taking into account the opinion of specialists whenever necessary. In this way, people can make the most informed and correct decisions in every circumstance.
- A.250** Photovoltaic cell technology is very interesting and appropriate to install in urban centres. Of course, initiatives of this kind will fit the progressive sustainability of buildings and cities themselves. Ideally, each building should produce the amount of energy it consumes. ⁵³ Photovoltaic panels will play an important role so that buildings, and especially cities, can be progressively more sustainable. It is necessary to monetize roofs and facades of buildings.
- A.251** FEUP has been developing panels based on specific thin-film technology. ⁵⁴ These panels will be able to take advantage of diffuse solar radiation, among other potential advantages.
- A.252** A good principle is to ensure reduced thermal needs for buildings from the outset. Additionally, it is useful to incorporate some renewable energy generation capacity as well as local energy storage. Electrical sustainability should preferably be considered

52 See point A.192, for example.

53 See point A.198, for example.

54 Based on materials called ‘perovskites’. These panels are characterized by high efficiency, greater than 22%, absorb diffused light effectively, are partially transparent and may have various colours. Unfortunately, they are very sensitive to oxygen and moisture. This type of panel is still under investigation and is not yet available on the market.

at the level of a set of buildings – and even at the level of each city – and not at the level of each building in isolation. Sustainability should be considered in an integrated perspective, in space (covering a city area) and in time (covering a period of time). This has already been mentioned in point A.198.

- A.253** In central and northern Europe, each citizen uses about 60-70% of the total energy they consume to heat their home. In Porto, this percentage is of the order of 20%. It makes no sense, therefore, to invest in energy-saving in Portugal using the same principles that make more sense to use in central or northern Europe.
- A.254** If we look at energy with photovoltaic origin, there is a time lag between the period of maximum production, typically between 11 and 15 hours, and the period of maximum consumption, typically between 18 and 22 hours. This offset can be offset by battery-based energy storage processes ⁵⁵.
- A.255** Agents selling electricity are encouraging people to install solar panels in their homes. Agents can earn more by co-financing electricity generation through panels. This situation, in addition to representing a new business model for these agents, and could provide important opportunities for the savings account of the people.
- A.256** The “reference cities” are cities that take on pilots to study and equate these themes. It should, however, be noted that the issue of energy efficiency is always user-centred, not in the legislation. In this respect, the city can play an exceptionally important role.

55 Several international companies already offer solutions for electrical energy storage, whether for domestic or industrial use. TESLA is one of them, which has already put into service battery systems with capacity up to 400 MWh to compensate for the typical time lag that is associated with the production of solar energy. These solutions point to the possibility of implementing fully renewable systems capable of feeding a city in the not too distant future.

B. Suggestions

- B.71** The Municipality should create a stock of knowledge like a scholarship about energy efficiency, that has practical advice and that is useful for people's lives. This bag of knowledge – knowledge exists but is scattered – can be an important support so that people can make the best decisions. This stock of knowledge should include information on desirable levels of comfort, explained in a simple way. Such a procedure could largely determine the patterns of energy consumption and, hence, the costs of the energy consumed by people. For the preparation of this scholarship, the municipality should involve the University of Porto, R & D institutions and companies in the sector. ⁵⁶
- B.72** An energy efficiency pilot in Porto, integrated in time and space. Integration in space means considering an area where several buildings are located; Integration in time means considering at least a full day, ideally several days in order to obtain more meaningful average results.
- B.73** Use the results of the pilot referred to in the previous point to develop a municipal sustainability policy that can lead Porto to be considered a “reference city”.
- B.74** Promote initiatives to share electric motor vehicles. Possibly, the development of tourism in the city may stimulate initiatives of this kind.

17

Talk 08/02/2017



Urban climate

Moderator

Pedro Pombeiro

Speaker

Ana Monteiro



Motivation

- Is there an urban climate concept?
- What are the main issues related to the urban climate?
- What answers are there, be it the air quality, the urban heat island effect or the adaptation to the climate change?

A. Summary

- A.257 It is interesting to imagine the city of Porto as a patient who goes to the doctor, going through the various phases of such a process.
- A.258 The Department of Geography of the University of Porto has been carrying out systematic measures of temperature in the so-called urban canopy or canopy layer, that is, below the roofs. One of the conclusions reached is that there are significant differences in temperature between different parts of the city⁵⁷, constituting strong thermal asymmetries. The coastal zone is an authentic 'island of freshness'. It is surprising that a city as small as Porto is characterized by several microclimates, resulting directly from the way the land is occupied.
- A.259 In Porto, the series of values that characterize the climate of the city or the region since 1987 is well known through data collected automatically by a station installed in the *Serra do Pilar* for more than 100 years. One of the conclusions reached is that there is a tendency for the temperature to increase in the city.
- A.260 The studies of human geography carried out in the city allows us to state that in the eastern part of Porto there is a greater concentration of elderly people and less educated people, as well as less heated buildings.
- A.261 Climate change predicts a decrease in average annual precipitation, an increase in the number of days with intense heat in summer and an increase of intense precipitation episodes winter. The human being will have to adapt to extreme climatic conditions. However, a natural cause such as the eruption of one of the world's great volcanoes can suddenly and radically change the conditions of life on the planet. This does not, of course, invalidate our concern about climate change and how it influences and conditions us.
- A.262 In general, the human being dies more as a consequence of the cold than of the heat.
- A.263 In order to improve people's living conditions, it is generally more effective to intervene in constructive typologies than in land planning and occupation policies. In this context, the most important parameter to consider is the comfort of people. The urban condition, however, is very positive, because we have never lived as well as we do today and in general in a city.
- A.264 The best way to improve people's living conditions and reduce their vulnerability is to intervene more in terms of building typologies. In order to anticipate the risks, it is necessary to install climate measurement stations in various parts of the city.

57 Values such as 16°C-18°C in a part of the city and 35°C – 40° C in another part of the city occur on summer evenings.

- A.265 The Procurement Process of all the Coastal Plans considers an artificial constructive line – possibly based on the so-called “The flood of the 100 years” – along the coast. Such a criterion is not based on technical competence, as it should be, and should be amended.
- A.266 It should be noted that in Portugal, the preparation of the first Municipal Management Plans (PDM) was imposed by the European Union as a requirement to receive the European funds.
- A.267 The Metro – Porto’s Underground has a brutal weight ($\approx 20\%$) in reducing CO₂ in the city.
- A.268 Portugal has been recognized to promote renewable energies immensely, which is excellent in the medium and long term. However, and paradoxically, the country has also promoted contracts for the detection and exploitation of oil reserves.
- A.269 It should be noted that it seems strange that the Portuguese Institute of the Sea and the Atmosphere (IPMA) has to sell to the Municipality of Porto the climatic data that it measures, instead of making them available for free.
- A.270 The network built under the Future Cities initiative should be studied in detail, as it can provide an interesting basis for implementing networks to monitor environmental parameters. It should be emphasized that it is more important to think in terms of comfort parameters than of climatic parameters.

B. Suggestions

- B.75** Accelerate and reinforce the return to the city of water lines that have been intubated — An ongoing by the company Águas do Porto – in order to stimulate green and blue corridors of great beauty, which will greatly contribute to the improving of the quality of life in the city. In the vicinity of these lines and whenever possible, it should be considered the creation of small green spaces for people's enjoyment. If you notice that the underground lines frequently collide with these corridors, its route should carefully address the existing water lines.
- B.76** To install in Porto several weather stations to better characterize the climate through reliable data obtained in real time and to allow the elaboration of a climate zoning map to associate with the PDM – Municipal Planning Programme. This initiative should occur in partnership with the University of Porto and/or with some R & D institutions in the city. Ideally, measurement stations should also measure a set of environmental parameters that characterize not only climate (temperature, humidity ...) but also atmospheric pollution (CO₂, SO₂, volatile organic compounds ...) ⁵⁸. The current phase of the revision of the PDM- Municipal Planning Programme is the ideal time to introduce this kind of network and corresponding maps ⁵⁹. Could the Future Cities initiative provide an appropriate basis for such a network? To what extent could these stations also incorporate security features, video surveillance cameras, and fire detection sensors? These would be same other issues to consider.

58 See point A.96 and note 23.

59 Since the 1950s, any German city has climate zoning maps associated with the land-use map. These maps do not exist in Portugal.

18

Talk 09/02/2017



Renewable energy in Porto

Moderator

Adélio Mendes

Speakers

Luís Seca

Miguel Marques

Pedro Ruão



Motivation

- How is the city adapting to the renewable energy use?
- In case the energy storage capacity increases significantly, the energy consumption paradigm changes. How does Porto use the energy stored in the network?
- What are the expected changes in the city as a result of an increased use of renewable energy?

A. Summary

- A.271** The city of Porto (in an extensive definition) occupies an approximate area of 100 km². If we occupy 10% of this area with solar panels with an efficiency of only 10%, these panels will generate approximately 10 times more electric energy than the city needs to satisfy the total needs of the city in domestic consumption. This example outlines what it is possible to do with photovoltaic technology.
- A.272** The Omniflow company has invented and commercializes a public lighting element powered by high-efficiency solar cells that are incorporated in the 'i' element that operate in conjunction with a circular wind turbine. This device is also capable of storing energy so as it is to dispose of it whenever necessary. The unit can also be equipped with video surveillance cameras, telecommunication modules and sensors of various types. The great advantage of these units is the flexibility offered by their energy autonomy, which excludes the need to install a power supply and wireline infrastructure.
- A.273** The cost of photovoltaic renewable energy has come down appreciably in each year. During 2016, costs decreased by about 30%. This cost is currently around 11 cents per kWh ⁶⁰.
- A.274** The storage of electricity was considered as the "theme of the year" of 2014 by the scientific journal Nature. In the future, energy dependence on a commercial supplier is likely to be substantially reduced and, in some cases, eliminated in many situations.
- A.275** Lowering the cost of energy consumed by a city means substantially reducing the amount of energy it imports through distribution networks. This implies that the city is capable not only of producing a large part of the energy it consumes but also of managing it intelligently, storing it in periods of lesser consumption in order to make it available again in periods of greater consumption. Furthermore, this way, the city may become much more energy-neutral than it is today.
- A.276** The European Commission considers that renewable energy generation and use cooperatives are important partners for cities to move towards a greater sustainability.
- A.277** People are at the centre of the energy sustainability, so it is necessary to help them make better decisions, that is, those that bring them the most benefits ⁶¹.

60 Cost comparison (URL queried on 2017.03.16):
<https://www.lazard.com/media/438038/levelized-cost-of-energy-v100.pdf>

61 See point B.71.

B. Suggestions

B.77 The Municipality of Porto should consider a plan for the use of energy from renewable sources, to be installed in the city either at the level of the Municipality or by private individuals and companies. In fact, the city is the only Portuguese city that is certified according to ISO 37120: 2014 for the sustainable development of communities.⁶² To co-finance such a plan, the Municipality could even think of concrete initiatives involving the issuance of municipal bonds and/or crowdfunding.

62 ISO 37120: 2014 was published in May 2014 and includes areas such as economics, education, energy, environment, finance, emergency services, health, leisure, security, waste, transport, water, etc. Instead of assigning value judgments or numerical goals to the indicators, 37120 establishes definitions and methodologies for a set of indicators, in order to guide and measure the performance of the city's services and the quality of life it provides to its citizens (Cf Smart Cities Magazine, 2014.08.12). (URL consulted on 2017.03.27): <https://www.iso.org/obp/ui/#iso:std:iso:37120:ed-1:v1:en>

19

Talk 14/02/2017



Waste and city

Moderator

Fernando Leite

Speakers

Luís Capão

Fernando Pereira

Filipe Araújo

Lino Oliveira



Motivation

- What are the production and reduction of urban waste problems?
- How has the city addressed such problems?
- How do the city and its companies make the waste profitable?
- How do people and the urban waste management fleet give an innovative response to these issues?

A. Summary

- A.278 «Clean My City» is a solution for managing the collection and treatment of waste of various types, with a very simple user interface via mobile phone. This solution has been applied in the municipalities of *Vale do Ave*. One of its most important aspects is the involvement of the citizens, a critical aspect so that the solutions work well.
- A.279 It is up to each individual to be the engine of the transformation of life into society with respect not only to the production of waste but also to its use, collection and treatment.
- A.280 Cities play an essential role in identifying the flows that can be tapped and their market acceptance ⁶³.
- A.281 In Portugal, one million tonnes of food waste is produced per year. In the European Union, more than 80 million tonnes of food are wasted per year when there are 55 million households that are unable to feed themselves satisfactorily. The municipalities could contribute decisively to the solution of this problem, stimulating solutions of social economy.
- A.282 It is very important that people and companies are properly informed about the various types of waste, including ideas for their commercial use.
- A.283 National and European regulations already set specific targets for a waste generation by municipalities, which are required to produce 10% less by 2020.
- A.284 Citizens have been increasingly aware of the importance to properly deal with waste and recycling it wherever possible. Often, this awareness is fostered in the families by the children, who are instructed in school on these issues.
- A.285 It makes no sense to speak of smart cities without intelligent citizens.
- A.286 The Project «Embrulha» – The Wrap Project aims to sensitize people who go to restaurants to wrap up leftover food in order to it be consumed later. This project has been successful and nowadays, most restaurants have already adhered to the idea.
- A.287 What can local authorities offer citizens to improve the efficiency of waste collection? How can technologies help in this process? These issues are important and a first response is that the simplest solutions are the most effective. For example, having only a single typology for surface containers and a single typology for underground containers. This is done in Cascais, for example. As for technologies, the Smart Waste Management platform has performed very well. As part of this solution, the

63 A recent and very interesting example is the solution developed by the Ulsan National Institute of Science and Technology (UNIST) in South Korea to transform human biological waste into biodiesel. The solution is described here (URL queried on 2017.03.18):
<https://www.sciencedaily.com/releases/2016/05/160531131113.htm>

containers are equipped with sensors that indicate the level of filling, which allows a huge simplification in the collection of waste and a return of the value to the citizen due to its so good behaviour.

- A.288** At Ribeira, a new solution was implemented about two years ago. The method is much more costly but now everything works better because the garbage is collected door to door by garbage-teams twice a day.
- A.289** Citizens have to develop much higher levels of civility.
- A.290** By encouraging the citizen to recycle more and more, the City Council is increasing the costs of collecting the garbage, because collecting different garbage is much more expensive than collecting undifferentiated garbage. It seems a contradiction, but it is a fact. It is however possible to change the paradigm. The municipality will have to take responsibility for finding solutions in how to recycle more and more without the costs increase substantially. In Porto, a new municipal company was set up to make these processes more efficient. Between 10% and 20% of municipal budgets are spent on the collection and treatment of waste.
- A.291** Information technology platforms associated with waste collection and the optimization of all waste-related processes have been developed in Europe and particularly in Germany.
- A.292** Citizens who exemplarily fulfil their responsibilities associated with deposition and recycling should be compensated in some way.
- A.293** It seems likely that in the future we will move towards the appearance of reusable glass containers, gradually disappearing the distinction between disposable glass and recyclable glass.

B. Suggestions

- B.78** LIPOR should encourage people and companies to look at waste as a resource capable of fuelling new business opportunities. To this end, it would be useful to create a knowledge base on waste, centred on LIPOR, which should include ideas for its commercial use. LIPOR already has an excellent knowledge base on waste, which covers the most general aspects.
- B.80** Thinking about an initiative that encourages the recycling of glasses and bottles in the nocturnal life area of Porto.
- B.81** Equip garbage containers with sensors that periodically transmit the level of filling of each container to the garbage collection service and before a possible collection. Such a solution is especially important for the underground containers. In parallel, there could be a mobile application that would allow each citizen to indicate to the local authority that a particular container – which should be identified – is full, or report any other relevant circumstances to the service collection of waste. The Clean my City project is a consistent step in this direction. However, it is important to note that any action by a citizen should lead to a response from the municipality in order to motivate their collaboration in these processes.

Transform economy

20

Talk 15/02/2017



Porto and the new employment paradigms

Moderator

Clara Gonçalves

Speakers

Helena Santos

Catarina Simões

Ana Bicho



Motivation

- What are tomorrow's careers considering the growing technological dependence?
- What opportunities have been created and lost and how has Porto set itself?
- Which innovation examples in job creation do we have?

A. Summary

- A.294** The Science and Technology Park of the University of Porto (UPTEC) has been doing a remarkable work in the last ten years. The more than 300 companies that UPTEC has incubated, emerging from the University of Porto, have already created over 2000 direct jobs.
- A.295** It is curious to note that many of the companies incubated at UPTEC end up creating other companies, spinoffs, to develop new business opportunities with a high sense of autonomy and responsibility. From experience, it turns out that this is the best way to provide motivation conditions for employees who are involved in the effort to create and develop spinoff, as projects become more ‘theirs’. Securing a social stake in the capital of each spinoff is an additional motivation factor that cannot be underestimated.
- A.296** In the best companies – large, medium or small – the motivation of employees is essential. In fact, the best companies do not have employees, but collaborators. In a startup, relational aspects and soft skills are absolutely essential. In particular, in the development of a new enterprise, there are always innumerable difficulties of the most varied kind. In order to be able to face these difficulties, the team must assume that each person is a stakeholder, that is, one must assume that each person is an essential pillar for its success.
- A.297** It is especially interesting and valuable to think globally when starting up with a new company. One important justification is provided by the finding that geography is a resource on par with any other resource, and not an obstacle. This means, for example, that a new company can benefit if it has its development nucleus in one region, the necessary capital comes from another, its business may be distributed by others and even its employees may have several nationalities. ⁶⁴
- A.298** In the future, technology will continue to be increasingly important in our lives, even because most processes require them to be automated at some point. Automating processes is a must, otherwise, they quickly become too time consuming and expensive. Process automation also frees people to more creative jobs and to more likely create more value.
- A.299** It is very important to attract young women and girls to science, technology, and engineering. Technology is an integral part of modern life and can not be ignored, and must be integrated naturally and be useful in people’s daily lives. Educating girls and young women in science, technology, and engineering is essential to ensure their future “empowerment.”

- A.300** All economic activities – deep down in the life of the companies – have a cultural dimension, which is very important. Economic production has a cultural dimension that should not be ignored.
- A.301** The culture economy provides a broader perspective on what is produced and done. To a large extent, this aspect of the economy is structured through projects, in which artists and team funders team-up to create something new and valuable. This economy of flexibility and entrepreneurship has the capacity to renew itself, relying on networks of employees with variable geometry that depend on the needs. This economy is especially creative.
- A.302** The new cultural economy is often the economy ‘of what is in the middle’, that is, of putting artists in contact with their financiers or service providers with their clients. The so-called ‘sharing economy’ also follows this type of model.
- A.303** As far as qualifications are concerned, perhaps the most important thing is to ensure that those leaving school are able to survive and grow in a changing world. To deal with this change, it is necessary to ensure basic skills, which are hard and soft skills. (See, for example, point A.35).
- A.304** According to recent studies in England, the sociological characteristics of many of the new entrepreneurs who have emerged have similarities with the characteristics of cultural consumers. The social origins are the middle and the upper middle class, possibly because the families are called to finance certain stages of the life of the new companies.⁶⁵ These apparently too selective circumstances may pose a risk to England-based entrepreneurship. It should be noted that the situation in the USA is substantially different because the sociological basis of entrepreneurs is broader and markedly less selective. This circumstance is possibly associated with the greater ethnic diversity that characterizes society and the greater ease of financing projects through business angels and venture capital.
- A.305** How can we guarantee the reproducibility – on a broad basis – of who produces and consumes? To better answer this difficult question, we must focus our attention not only on infrastructural aspects but also on cultural aspects.
- A.306** There is an immense need to blend conventional areas into educational processes, breaking the innumerable artificial barriers that the conventional teaching system has been stimulating. We must mix exact sciences with applied sciences, sciences with arts, sport, and culture. It is essential, however, that this hybridization occurs evenly, otherwise, it can run the risk of having no meaning or value. Experimentation is

⁶⁵ In Silicon Valley, the term ‘family, friends and fools’ is often used to designate the most frequent initial investors for a startup.

essential because it will be from this mixture that many of the professions of the future will emerge ⁶⁶. Questioning is essential for young people. It is necessary, however, to learn to ask questions, which implies that one learns first to think and develop critical thinking. Knowing how to ask requires being able to navigate complex topics in order to “put” the questions in a relevant way, thus increasing the likelihood that the answer will be useful from the perspective of the questioner. (See, for example, point A.35).

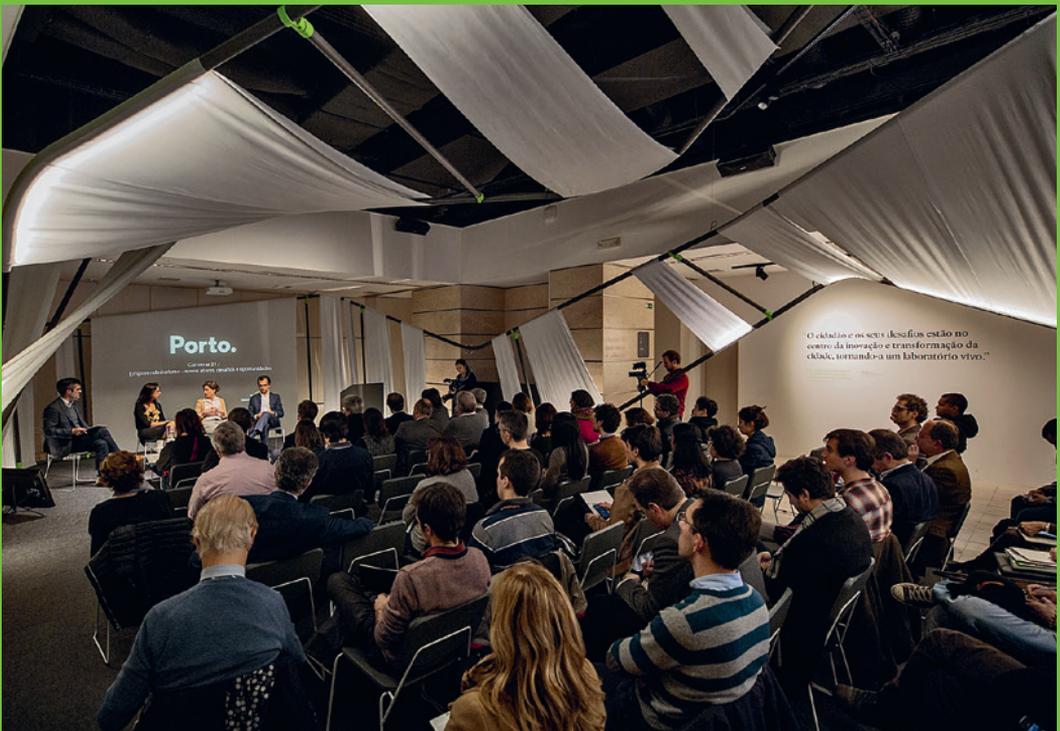
A.307 One of the best ways to stimulate flexibility in young people in the future is to stimulate the acquisition of diversified and even entertaining experiences, in particular through the practice of sport, contact with nature, encouragement of reading, contact with other cultures, participation in voluntary actions ...

B. Sugestões

B.82 Invite the technology companies and the higher education institutions assigned to Porto to organize an annual fair aimed at the people of the city, including children, in order to publicize the importance of science, technology, and engineering, as well as to raise awareness among the younger population that these areas represent excellent opportunities for future work. This would be a clever way of bringing the sciences, technologies, and engineering to the street ⁶⁷.

21

Talk 16/02/2017



Entrepreneurship — new actors, challenges and opportunities

Moderator

Paulo Calçada

Speakers

Ana Teresa Lehmann

Censo Guedes de Carvalho

Paula Costa



Motivation

- What is being entrepreneur in Porto and what support does the city provide to entrepreneurship?
- What barriers exist between the business world, the I&D units and the incubators?
- What makes a Start-up come to an end or move elsewhere?
- What examples of funding and support to the growth in the new economy are there?

A. Summary

- A.308** Entrepreneurship can be approached in several ways. In particular, we should note that the entrepreneurial ecosystem in Porto includes hundreds of startups, many of which have already reached the scale-up phase and others, generally larger, have already been acquired by multinationals. Thus, the way to look at entrepreneurship has to be in multidimensional way. The Porto ecosystem is vibrant and the InvestPorto has an excellent relationship with this ecosystem.
- A.309** Portugal Ventures started to make available on its website a page about professional careers, to facilitate the identification of job opportunities in the investee companies. The attraction of resources to our territory is important but has been hampered by rising real estate prices.
- A.310** Portugal Ventures has already invested around 115 million euros in 80 companies, some 37.2% of which in the Northern Region. Alongside the National Innovation Agency (ANI), COTEC Portugal (COTEC) and the Agency for Competitiveness and Innovation (IAPMEI), this venture capital company is headquartered in Porto.
- A.311** In recent years, competition in the venture capital sector has emerged in Portugal, allowing risk sharing and securing investments in other stages of the life of companies, since Portugal Ventures is mainly focused on startup financing. New venture capital operators have set up diversified investment funds, demonstrating significant dynamism. The way to go, however, is still long, both in the formal part (applicable law) and in the part of practices and procedures.
- A.312** A significant number of startups require their future collaborators to have knowledge and skills in Mathematics. In fact, the most important thing is not the mastery of mathematical techniques, but rather an ability that results from the learning of Mathematics, which is Logic. When one learns Logic, one learns a valuable tool to know how to think in any area. Subsequently, the company will be responsible for training the employee, providing him with the knowledge and skills that are most relevant to the specific duties he will perform, including programming.
- A.313** The programmers, computer engineers, electrotechnical and telecommunications engineers who are being trained each year are clearly insufficient in number for each of the available job opportunities. This situation is a limitation for some startups, forcing them to implement specific training programs. Some of these programs even involve the professional training of people from other areas of knowledge, including the social sciences.
- A.314** InvestPorto – an entity directly dependent on the Mayor – provides potential investors with a set of differentiated services aimed at contributing to the creation of a business environment that is more conducive to investment and also has the responsibility

to follow the investor during all stages of the Investment process, with the aim of eliminating context costs and supporting companies that settle in the city throughout their lives. InvestPorto also promotes the companies of the existing entrepreneurial ecosystem in the city, working in network with many other entities, including companies already installed. In this context, BLIP, a web engineering company specializing in high-performance web applications, is an essential reference. These companies are also exceptional ambassadors of the city, which has been increasingly sought after by foreign companies.

- A.315** In order to solve the limitations of human resources, universities will have to abandon the numerus clausus regime. On the other hand, it is necessary to start training programs that are defined by the companies, involving close collaborations between them and the schools, since the traditional academic training solutions no longer satisfy the market. On the other hand, applications for qualified resources come not only in software but also in electronics, biotechnology, chemistry, materials, sales and other areas.
- A.316** Consideration should be given to the importation of qualified human resources from other countries, including Eastern Europe. Such importation should be undertaken within the framework of a specific strategic plan and with a framework for turnkey solutions which are practical and functional for the persons and the companies concerned. Such solutions will have to include the housing issue.
- A.317** In Portugal, entrepreneurs and startups still have little knowledge of the alternatives available to finance companies throughout their lives: Seed, Series A, B, etc. Portugal Ventures could centralize and make available a knowledge base on this topic
- A.318** The coming of WebSummit to Portugal has greatly increased the visibility of the country and the national technology companies. Many of these have already begun to be addressed by potential foreign investors, and some national investors have been partnering with foreign investors to explore opportunities for co-investment and mutual learning
- A.319** Opportunities to return the value to the city or country – giving back, should be encouraged. Entrepreneurs and projects that received appreciable public resources and which, for whatever reason, failed to achieve the level of success expected, should be involved in programs to bring back to society some contribution that would create value for other entrepreneurs. Their experience to other people. ⁶⁸

68 For this, Portugal Ventures could call entrepreneurs who were in these circumstances or even call others who were open to collaborations that could be useful to other entrepreneurs. The ultimate goal would be to give value to society through the experience gained.

- A.320 The process of dialogue with investors – both at startup level and at InvestPorto level – is a process of building mutual trust, which has to be continuously tested through the actors' attitudes⁶⁹, behaviour, and actions.
- A.321 A very important lesson for any startup is the initial funding of their product or service. Startup often falls into the error of fully financing this development effort, relying too heavily on the apparent interest and perceived future commitment of the potential customer or business partner, only to find out a few months later — Already with much less capital in the bank — that after all, the customer has changed his mind and now wants the prototype in pink instead of blue. Or, in the worst-case scenario, that the interest was not real after all and that it faded away after a substantial development effort and corresponding investment by the startup. The only way to avoid this kind of risk is to involve the potential client in the development effort, forcing it to co-finance that effort. This process requires the development of trust between the parties. (See note 69).
- A.322 The installation of new businesses in a less developed region of the city stimulates numerous small-scale economic activities and local entrepreneurship. This process plays a crucial role in the desirable harmonious development of the city. Interestingly, most investors are aware of their social responsibilities and curious about circumstances that are relevant.
- A.323 Soon, Portugal Ventures will launch a venture capital fund specifically aimed at startups who work on Social Innovation.

69 We can designate this kind of mutual trust as “proven trust” or “earned trust”. Proven trust is a form of capital, which we can call a ‘earned trust capital’.

B. Suggestions

- B.83** Given the success of the InvestPorto to date, the Porto City Council should strengthen the agency's team and the means available to increase its reach and effectiveness. In particular, situations like BREXIT and instabilities that are felt in other countries could represent very good opportunities for the city. On the other hand, bureaucratic processes that intertwine with the InvestPorto should be streamlined whenever necessary.
- B.84** In Portugal, entrepreneurs and startups still have little visibility on the alternatives available to finance companies throughout their lives: Seed, Series A, B, etc. The Portugal Ventures could centralize and make available a knowledge base on this topic.
- B.85** It would be interesting to think about the implementation of a program to train children and young people in areas that would make them excited and respond in an interesting and productive way to future needs. This program could be sufficient justification for creating and developing a social economy startup ⁷⁰.
- B.86** Consider the possibility of promoting, in conjunction with companies and schools with representation in the city, the implementation of a medium or large scale project, namely a startups campus ⁷¹, or at least a Startup Village ⁷² occupying, for example, a recovered neighbourhood from the city. This campus should be structured and financed in a way that would allow it to evolve without being dependent on existing schools in the city, although it should be articulated with them.
- B.87** Selling the city as a City-Region would allow them to lay down important advantages. The Porto brand is important. Belonging to the City-Region can, however, create immense advantages of international competitiveness. To this end, the City-Region must be able to build an international narrative.

70 In principle, such a program should not be piloted by a school, to avoid design and implementation flaws that could condition the initiative.

71 The Station F startups campus, for example, is a possible, proven and effective model. See the respective website at <https://stationf.co/fr/> (URL Consulted on 2017.03.02).

72 The Startup Village in Kansas City is an interesting model. See the respective website at: <http://www.kcstartupvillage.org/> (URL consulted on 2017.03.02).

22

Talk 21/02/2017



Innovation pathways

Moderator

Jorge Gonçalves

Speakers

Alexandre Almeida

Maria Oliveira

André Rocha



Motivation

- What models of knowledge sharing between the university and the economy do we know?
- What have been the models followed for the knowledge transfer between the academia and the business community in Porto?

A. Summary

- A.324** Companies innovate for a variety of reasons, three of which stand out from existing products: (1) innovate to sell a product that the company already has, for a higher price and thus improving the profit margin, (2) innovate to produce a product that the company already has, at a lower cost and thus improving the Margin of profit, or (3) or innovate to be able to sell more. Innovation must produce value, otherwise, the process cannot be called innovation ⁷³.
- A.325** There is always a misalignment between an academic organization and a company. This misalignment is natural and healthy since these entities have different missions in society. These missions, however, are complementary. For a company, the most common indicators of success are sales and profit margins. Naturally, the indicators of success for one university will be others which may include a type and number of academic degrees awarded, a number of publications made, registered patents and a value of intellectual property licensed or that was sold to external entities.
- A.326** The dialogue between a company and an university is almost always difficult because the cultures that characterize most people “on each side” are different and rare are the people who move naturally between the two sides. It is necessary to have experience so that the different cultures do not constitute an obstacle to the establishment of beneficial partnerships for both parties. The mission of universities’ technology transfer offices is precisely this: to establish bridges between the business community (external to the University) and the academic community (internal to the university) ⁷⁴.
- A.327** In general, we can refer in classical terms that the mission of a university is to teach and investigate at the frontier of knowledge. In other words, it is to produce and disseminate knowledge, at the highest level. However, the university is also increasingly interested in valuing the knowledge it produces, through patent registration, licensing and the sale of intellectual property produced within it, for example ⁷⁵.
- A.328** Over the last 20 years, Portugal has made a notable investment in the development of conditions for the carrying out of scientific research, in terms of infrastructure, projects, or the qualification of people at postgraduate level, qualified with masters and doctoral degrees. Unfortunately, it is still rare for Ph.Ds to work in companies, and the support program for contracting Ph.Ds for companies has been in short

73 See note 2.

74 These services have an exceptional relevance for society since they are literally entities that create value for all, giving back to society some of the value invested in Higher Education, Science and Technology.

75 In December of 2015, Stanford University in California celebrated the fact that it exceeded a revenue that exceeded the US \$ 1 billion through the licensing and sale of intellectual property developed at the university.

supply. To create more value, companies have to take an important path to specialize. This process involves incorporating more knowledge in the products and services they sell, which implies a superior qualification of the companies' staff. ⁷⁶ In part, this difficulty stems from the low qualification of many business leaders, especially at SME level.

- A.329** The competitiveness of a company is determined by the value that a customer considers it gives at him of return for every euro that he spends to acquire a product or service of the same. Innovation is, after all, the process that creates this value.
- A.330** Why are our human resources so productive when integrated into multinationals or foreign companies, and seem so unproductive when integrated into most national SMEs? There is a serious organizational and management problem here. Companies have to go a long way but they will have to do so quickly.
- A.331** A new business fabric is being built in which new entrepreneurs are much more skilled. This process is slow because only 12% of the population is licensed, but it is especially important because of its influence on the transformation of today's business culture – especially at SMEs – into a more specialized, more competent and more international culture.
- A.332** Universities have to accelerate their transformation. There is no time to wait much, given the rapidity of scientific and technological developments and markets. Universities must once again take the lead in transforming and developing society instead of going in its tow, as it is currently the case. In particular, its management model has to be changed very significantly.
- A.333** In business, it is necessary to accelerate the death of the companies without viability. This process of 'creative destruction' has to be much faster and more effective than it has hitherto been. These companies cannot be maintained artificially with bank support and/or with political favours.
- A.334** In national companies, with the possible exception of multinationals, there is no longer a long-term R & D strategy. This situation reinforces the interest of establishing strategic partnerships between companies and universities or R & D institutions.
- A.335** In Portugal, there is too much policy instability, compounded by the fact that some institutions working in these areas are divided between the Ministry of Education and the Ministry of Economy. This situation should be clarified. The State should allow agents to have same space to develop. There is excessive bureaucratization as well as excessive centralization of processes. Local entities should be the partners of the companies, not the central entities. Decentralization of responsibility and authority

to make decisions that affect business is essential because decisions must be made locally.

A.336 One specific difficulty that arises in the dialogue between companies and universities lies in the issue of intellectual property. Ownership must reside in who made the invention. Nowadays it is simple to agree on the procedures that must be followed in a project that involves a company and a university. Indeed, issues of access to and use of the intellectual property must be well established beforehand.

B. Suggestions

- B.88** The University of Porto should create units with multidimensional competencies. These units should aggregate several institutions in order to create critical mass that would allow to approach projects with companies on a more professional basis
- B.89** Porto's City Council should organize a meeting with experienced national and foreign guests, in order to discuss how the Municipality could catalyse the articulation between the university and the companies, contributing to the development of a new business fabric in the City-Region, based on innovation.
- B.90** The Porto's City Council should continue to stimulate Porto as an attractive city from the environmental, public, cultural and scientific point of view. People who live in or visit the city have to feel inserted in the world and not feel like their are stuck in a corner. The complicities are created thus and it is from the complicities that the opportunities are generated.

23

Talk 22/02/2017



The Porto Wine Industry

Moderator

Manuel de Novaes Cabral

Speakers

António Marques Filipe

Gonçalo Lencastre Medeiros



Motivation

- With a long history and an enormous weight in the city image, the Port wine trade found in innovation the basis for its present strength.
- What lessons have been learnt?

A. Summary

- A.337** The demarcated region of the Douro is the oldest demarcated and regulated region in the world.
- A.338** The cellars of Vila Nova de Gaia receive more than one million tourists a year.
- A.339** The name of the Port Wine goes far beyond what it represents in the markets. In 2016, Porto wine sales reached 370 million euros, of which 80% came from exports.
- A.340** Porto is more than Porto. To a large extent, this projection is related to the secular history of the Porto wine. In this regard, it is important to emphasize vineyards, wine, and services.
- A.341** In the same region, we have two of the most powerful designation's of origin in the world: DO Porto and DO Douro. Porto and the Douro represent more than 60% of wine exports from Portugal. Porto wines have already entered 120 markets and Douro wines in 100 markets.
- A.342** As an example, Symington produces 9 wineries out of 28 farms, with a turnover of around 90 million euros per year. This work has been developing over the decades. The competitive environment is very difficult even because the vineyard has been contracting in Europe. At present, China has the second largest area of vineyards in the world. Portugal is the 12th wine producer. However, the area of vines represents 2.4% of the total area of the country, which corresponds, however, to the largest percentage of vineyards in the world. Consumption and the area of the vineyard itself are in fact moving to America and Asia.
- A.343** The potential for wine sales has been declining due to the ban on its consumption in Muslim countries, by religious imposition.
- A.344** In Asia, supermarkets are turning into shop windows because the delivery of goods is already done in a personalized way, in the most convenient place for the customer. This way of selling raises some problems to the distribution of wine.
- A.345** Symington's mission statement is simple: delivering to the next generation a better company than the current generation.
- A.346** To compensate for global warming forecasts, some of the vineyards are being planted at altitudes a little higher than those practiced so far.
- A.347** In the wine business, it is crucial to solve small problems with each passing day, as well as to think outside the box. You can refer to the exploit and explore strategy. Symington has a Kaizen process under way and every day the teams meet for 15 minutes to analyse the most important situations that occurred the day before.
- A.348** Competition has to be done through value and not through cost or soil productivity. In Chile or Argentina, for example, and in relation to the Douro, the cost to produce 1kg of grapes is about 7 times lower.

- A.349 The maturation stage of grapes on a certain parcel of land is already determined by multi-spectral photography provided by airplane.
- A.350 In the Douro, there are many vineyards whose roots are going to fetch water 10m deep, so the way water is used is essential, especially in a context where availability of this fundamental resource will decrease in the future.
- A.351 Wine production today is subject to controlled processes with the a stricter rigor and involves advanced technology. In addition to production, the Porto wine industry itself has been expanding its bases and penetration into the value chain, for example through the promotion of farm tourism, visits to cellars and thematic holidays.
- A.352 The consumer's appreciation of a particular wine depends heavily on cultural factors. On the other hand, most people are very influenced by the opinions of others, and hardly are able to abstract themselves from the opinions of others. In this context it is essential to work on the concepts of the regions, taking into account their essence, in order to extract value from the products coming from the region.
- A.353 Nowadays there is an interesting diversity of types of Porto wine. There is also a great innovation in the way we serve and consume the Porto wine. In fact, there is innovation in vineyards, wine, and service.

B. Suggestions

- B.91** Use of the brands associated with the Porto and Douro wines, “DO Porto” and “DO Douro”, as well as the brands associated with the companies of the Porto wine industry and the University of Porto, to promote the City-Region: «Porto – North of Portugal».

24

Talk 23/02/2017



Culture and economy

Moderator

Guilherme Blanc

Speakers

Helena Santos

António Costa

Rui Mendonça



Motivation

- What is the relationship between Culture and Economics?
- What lessons have been learnt?

A. Summary

- A.354** The discussion between Economy and Culture is often fraught with discomfort and even tension. However, this is an important discussion, given the various substantive transformations that have occurred in many societies. To illustrate the intense relationship that can exist between Economy and Culture, it is appropriate to recall England's strong commitment to Culture immediately after World War II, as a way of stimulating the recovery of the Economy that had been destroyed, as well as positively influencing the People's attitudes.
- A.355** In the last decade, several studies focused on the economic expression of Culture. What is the relevance of these studies? Is it possible to establish it? Some authors even consider that the Economy can be represented by a masculine being whereas Culture can and should be represented by a feminine being, without measure, beautiful, mysterious ... Considering this dichotomy, it is verified that there is a very little dialogue between Academics from one area and another. This situation makes it difficult to establish a more extensive and multidimensional conceptual framework that articulates both areas.
- A.356** Nowadays, Culture has come openly to the spotlight. Many of the transformations that have occurred in the area of economics, the labour market, the value of objects, the tangible, the symbolic ... have come close to what some areas of the cultural field could offer. The incorporation of design into the objects is an example of this. The customer, in many situations, does not already pay for technology, but what is symbolic, expressed by design or other more subtle characteristics. There are objects that even become works of art, transmitting sensory experiences and even emotions. Thus, the cultural field and the artistic field also expanded.
- A.357** The development of the Social State in post-war Europe occurred at a time when the guaranteed funding model for Culture was imploding. This contrast reinforced some tension between Economy and Culture.
- A.358** Cultural and artistic assets have a greater proportion of symbolic than economic dimension. It should be noted, however, that economic goods also have a certain symbolic dimension. At a time when the dominant rhetoric is innovation and creativity, it is important to spend time – a time of investment rather than cost – to test and experiment, giving rise to what in economics is called “waste”. Turning to entrepreneurship for the sake of analogy, it is noted that incubators, which are very fashionable, also play this role, placing the hand under the “baby.”
- A.359** The diversity of agents on the Culture side is no less than on the Economics side.
- A.360** In Porto, the *Casa das Artes* opened with the cinema auditorium, the Henrique Alves Costa Room. Inaugurated in 1991 by Medeia Filmes, it came to fill a fault that existed

in the city, happening to present the best European films and cinematographies that arrived little by little to Portugal. Curiously, at the time, the number of spectators in a room with that kind of programming was much higher than today – it reached more than 80 thousand spectators per year. Many author films, which today, with many more copies, stand for the 5,000, 10, or even 15,000 to 20,000 viewers, reached 80,000 to 90,000 at the time, and some exceeded even 100,000 viewers.

- A.361** In Lisbon, the municipality is committed to direct funding at the exhibition halls, which have also disappeared. However, Medeia Filmes of Lisboa is in a private space and pays income. In Porto, Medeia is in a space that is nowadays the autarky, with which it does a ticket sharing.
- A.362** The national film plan for schools in Portugal has little effect because, with rare exceptions that have to do with the personal commitment of some teachers, it merely requests DVDs from film distributors to show them to students. In France, the students of the schools go to the cinemas to have this experience, integrated into an extended school project. The creation of new audiences in Portugal has not worked, because the preference for liking cinema develops mainly by seeing films in the cinemas. In addition to being a cultural experience, cinema has an important social experience component.
- A.363** What has happened in the design area is interesting. About six or seven years ago, dozens of Portuguese designers, the great majority of Porto, moved to London. Nowadays, in addition of it being rare to see a designer from Porto move to London, there is often a return of designers from London to Porto, as the city has become attractive to these professionals.
- A.364** What marks the city of Porto are the people and their attitudes, their culture. The Portuguese show a frankness, a hardness of simplicity, which is unique. In a way, it can be said that in phases of crisis, Porto was always the first to overcome them, because people are brave. There is indeed in the city an immense wealth of know-how; At the same time, this wealth blends with entrepreneurship, innovation, and creativity. Porto mixes tradition, conservatism, and the patina with innovation. Most importantly, to affirm a city, it is the wealth represented by the culture and by the attitudes of the people who inhabit it and give it soul.
- A.365** Culture funding may have different aspects, which should be considered separately. As a general rule, what should be financed is not the production of Culture but its distribution or consumption. For example, if a particular cultural production has merit, then the municipality could acquire several sessions and distribute them by residents. In a similar way with pieces of art, where it may be relevant to assist in the distribution. The public funding of Culture, therefore, is always important, but its

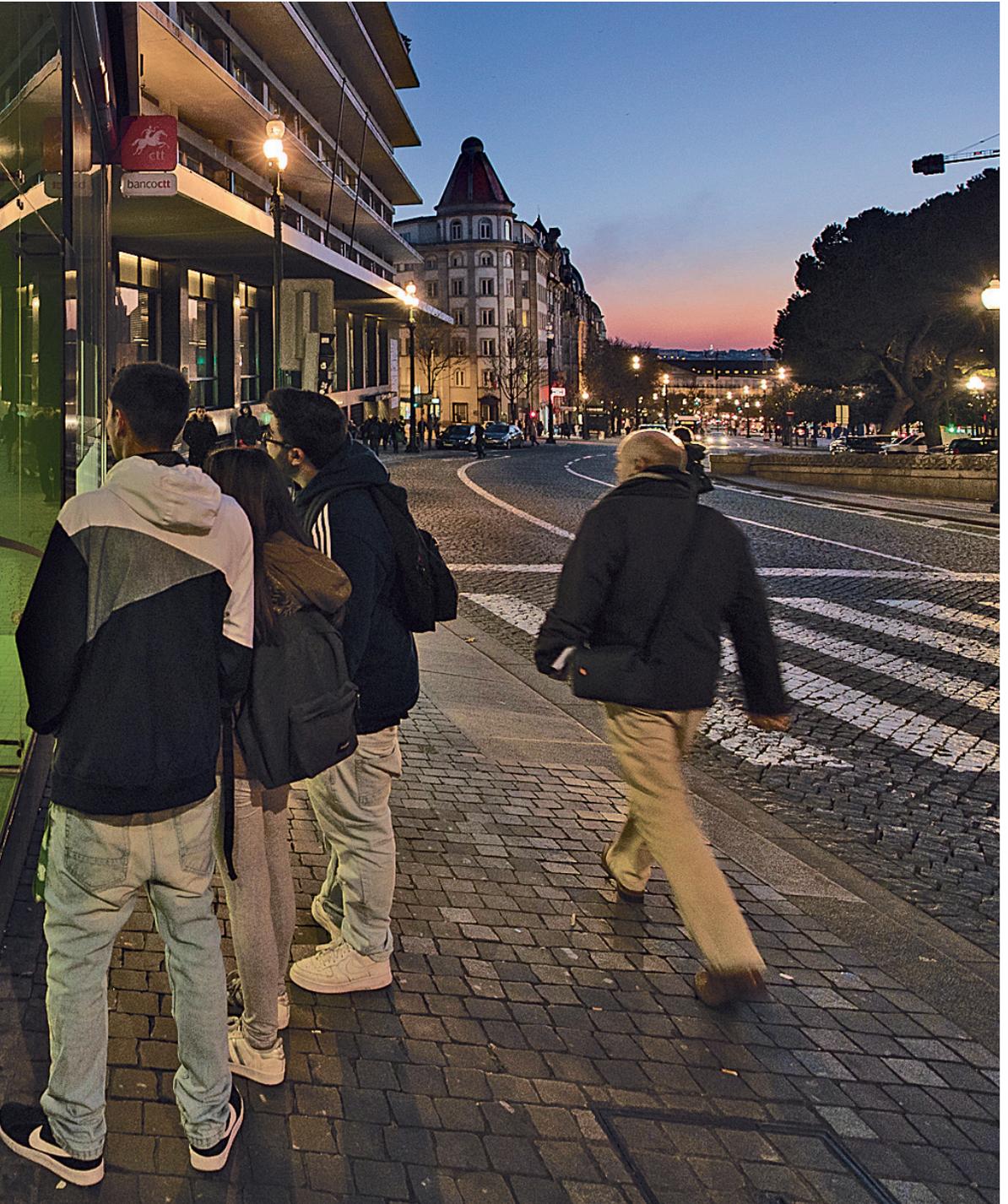
implementation must be careful. In the situation of performing arts such as ballet, orchestra, dance, opera or theatre, public and private financing (patronage) play essential and unavoidable roles. It is necessary to develop a culture of interrelations, of intersections, of dialogue. It's a matter of scale. Support should, however, focus on excellence, probably measured in some way through the interest of target audiences.

A.366 Porto has a great way to go in order to become a more creative, more fun, more interesting, more scientific, more cultured and more cosmopolitan city, without however failing to protect and develop its character, that is, aspects Which make it unique. Porto cannot allow its culture to be formatted through more superficial influences associated with globalization. The steps that have been taken, however, indicate that the City-Region is on the right path.

B. Suggestions

- B.92** Culture funding may have different aspects, which should be considered separately. As a general rule, what should be financed is not the production of Culture but its distribution or consumption. For example, if a particular cultural production has merit, then the municipality could acquire several sessions and distribute them to residents. In a similar way, it could be relevant the auxiliary municipality in the distribution of pieces of art. The public funding of Culture, therefore, is always important, but its implementation must be careful. In the situation of performing arts such as ballet, orchestra, dance, opera or theatre, public and private financing (patronage) play essential and unavoidable roles. It is necessary to develop a culture of interrelations, of intersections, of dialogue. It's a matter of scale. Support should, however, focus on excellence, probably measured in some way through the interest of target audiences.
- B.93** Porto has a great way to go in order to become a more creative, more fun, more interesting, more scientific, more cultured and more cosmopolitan city, without however failing to protect and develop its character, that is, aspects Which make it unique. Porto cannot allow the formatting of its culture, through more superficial influences associated with globalization. The steps that have been taken, however, indicate that the City-Region is on the right path.
- B.94** Regional journalism has to pay more attention to the city.
- B.95** Porto has to recover the philanthropic matrix that already characterized it, for financing the Culture. This aspect could possibly be developed in the context of the City-Region.





Glossary

AMP	Metropolitan area of Porto
ANI	National Agency of Innovation
CCP	Code of Public Contracting
CMP	Municipality of Porto
COTEC	Business Association for Innovation
CREP	The Porto outer ringroad (CREP)
FEUP	Faculty of Engineering of the University of Porto
I&D	Research and Development
I3S	Institute of Health Research and Innovation
IAPMEI	Institute of Support to Small and Medium Enterprises and Innovation
IBMC	The Institute of Molecular and Cell Biology
IMI	Municipal immovables Tax
INEB	Institute of Biomedical Engineering
INESCTEC	Institute for Systems and Computer Engineering – Technology and Science of Porto
IPATIMUP	Institute of Molecular Pathology and Immunology of the University of Porto,
LIPOR	Intermunicipal Waste Management Service of Greater Porto
OMS	World Health Organization
PDF	Porto Design Factory
PDM	Municipal Director Plan
PME	Small and Medium Enterprise,
POOC	Spatial Planning of the Coastal Zone
RERU	Excepcional Programme For Urban Rehabilitation
UP	University of Porto
UPIN	Up Innovation
UPTEC	Scientific and Technological Park from the Porto University
VCI	Inner Waist Strap

Biographical note of the Editor

José António Ribera Salcedo graduated in Electrical Engineering from the University of Porto in 1973 and received M.Sc. (Masters) and Ph.D. degrees in Electrical Engineering from Stanford University, California, in 1974 and 1978, respectively, where he subsequently worked as IBM Postdoctoral Fellow. In those years, he was a NATO, Fulbright and IBM Fellow. Subsequently he worked for Westinghouse Electric Corp. as Senior Scientist.

Having returned to Portugal in the 1980s, he co-founded and co-directed INESC-Porto and its Centre for Optic Electronics. In 1994/95, he served as Manager of the Praxis XXI Program, a national program for the co-financing of Science and Technology. Up to 2002 he undertook an academic career at the University of Porto, first as Associate Professor and. Aggregate Professor of the Department of Physics of the Faculty of Sciences, and then as Professor at the Department of Electrical and Computer Engineering of the Faculty of Engineering.

In 2002, he stepped down from his University of Porto tenure to start a career linked to the creation and development of technological companies, following the ENT company that co-founded and co-directed in the EFACEC Group between 1995 and 2000. He also founded and managed Multiwave Photonics (California and Maia) between 2002 and 2012, followed by ATLA Lasers (Norway) since 2012.

He is a member of the Academia Europaea and of the main professional organizations in Photonics, Applied Science and Engineering (IEEE, OSA, and SPIE). He also received the career award "IEEE Engineering Achievement Award 2009". He is the author and co-author of more than 100 scientific papers published internationally and of 10 patents registered in the USA.

His daughter does research in Microbiology in Lyon, France, and his son works in Photography, Cinema, and Media in San Francisco, California.

His favorite hobby is photography.













~~1 objective~~
~~3 month public debates~~
~~146 speakers~~
~~2200 participants~~

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**José António
Ribera Salcedo**
Editor

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