15th World Conference Cities and Ports

Rotterdam
5-7 October 2016

Congress Report
Interaction. That was one of the key objectives of the organisers of the AIVP 15th World Conference. Almost 400 business professionals, policymakers and academics from all over the world met in Rotterdam from 5 to 7 October. They explored crossovers between port and city—crossovers for economic and social innovations fuelled by new technologies, innovative businesses and new planning strategies between city and port.

For many of those attending the conference, the former submarine facility that now forms part of the RDM Campus was a strange space. Large conferences often take place in conventional conference venues or hotels, but the hosting organisers in Rotterdam convinced AIVP that the theme, the location and the programme of the conference had to be unconventional. This push for the unconventional had everything to do with a reality that many in the Dutch port city have become fully aware of in recent years: while becoming an attractive city with a successful port, Rotterdam still faces considerable economic, social and spatial challenges.

In spite of the numerous differences between the world’s port cities, the major issues they face are similar in many respects. Climate change, energy transition and the development of “disruptive” technologies featured in almost every presentation given at the conference. Solutions are not readily available, however. Next to introducing new technologies, many port cities find that social innovation and the related engagement of citizens is even a greater challenge, as Thato Tsautse—managing director of the maritime cluster in Durban—clearly underlined during the opening sessions.

It proves difficult for many port city authorities to enforce sustainable solutions inside their territories due to the fierce competition between ports and the lack of internal incentives for innovation in the maritime transport sector. Hence, progressive port authorities face a dilemma. Allard Castelein, President of the Port of Rotterdam Authority, is encouraging innovation and sustainability. However, he explained that “achieving that aim also requires, for example, increasing the price of CO2 emissions, which can only be done effectively if all countries participate.”

Six themes

The conference in Rotterdam focused on six, partly overlapping themes: circular economy, innovative business, smart technologies, joint planning strategies, climate resilience and social innovation. An introduction to the smart technologies theme was provided by a keynote presentation of smart cities guru Boyd Cohen, who’s projects include Barcelona’s 22@ urban renewal programme. He posed several questions, such as how open and transparent data and governance
can be integrated between a port and city (and its citizens). Using London as an example, Cohen showed how people and businesses can identify opportunities and solve problems together.

Mitigation, described by those who spoke about climate resilience as fighting short-term symptoms, is not enough to deal with the effects of climate change. Long-term investments in adaptation are extremely important. However, turning such investments into a reality will take a fundamental change in culture. This starts with finding a common language—one that defines words like resilience much more clearly. According to the rapporteurs, political will and investments will follow. Sectoral systems must become more closely linked and, through the open sharing of knowledge, scientific know-how must support decision-making. This will for example make it possible to link already necessary investments in infrastructure to climate adaptation measures and other innovations in a smart way.

It was of no surprise that leadership was referred to as a crucial factor in several discussions of the themes. There are many uncertainties regarding circularity, innovation and adaptation. Nine out of ten start-ups fail. CEO Grace Sai of Impact Hub - a network that functions as an innovation lab, a business incubator and a social enterprise community centre - emphasised that this is also the case in Singapore. Unlike in many European countries, the attitude in Singapore seems to be that failing is part of the process. Entrepreneurship is synonymous with taking risks. Failures mean steep learning curves, experiences that, through knowledge sharing, will ultimately lead to success.

The AIVP conference offered several inspiring keynote presentations. One of them was given by Maarten Hajer, professor of Urban Futures, who spoke about inevitable decarbonisation, and the importance of “imaginaries”. Novel perspectives are crucial for forging new coalitions and breaking free of the ideas and structures of modernity that enabled us to take major steps forward in the past, but are now impeding meaningful progress. According to Carla Jong of the Port of Amsterdam, one of the theme moderators for circular economy, many port cities are already on the right track. She stated that staying on course will nonetheless take “boldness”, since the road ahead is undoubtedly a rocky one. Despite all of the synergy maps and beautiful visions, cooperation will ultimately have to take place between parties that barely know each other. Achieving such cooperation is an enormous challenge. In addition, solutions must often be implemented at a level of scale that differs from the one at which the problem is occurring (such as the CO2 reduction referred to above). This is likewise a challenge. Nevertheless, one key objective has already been reached: we are becoming aware of the importance of diversity among the parties involved, and of differences in scale between problem and solution.

Planning in uncertainty

The theme of joint planning strategies was focused on the question as to how spatial planning and development can support the innovation that is required in port cities. An argument made by Canadian researcher Peter Hall on the first day of the conference was reiterated once again at the end: sites between port and city are permanently unfinished. Plans must therefore be flexible. In other words, plans must be made “for the meantime”. Climate adaptation has a different planning horizon than the development of business incubators or the creation of social innovation, such as the training and retraining of technicians at the RDM Campus. Nevertheless, according to the rapporteurs, all of the themes must be taken into account simultaneously and must not be
allowed to stagnate. “We need to plan incompletely. Since we don’t know exactly what the future economy of the port city will be, we will need to plan for uncertain functions.”

None of the theme-based discussions addressed the question as to who must take the initiative and what bodies need assume a leading role. The answer differs according to theme, location and point in time in the process. There was general agreement, however, that there is a role for politics, government authorities, private sector parties and individual citizens. They must all contribute, on different levels of scale, to the innovations and interventions required, and each will be “in the lead” at different points in time. Both people and businesses have to experience the benefits, where do they go to in the ‘chain’. So this needs new types of business cases. CEOs and politicians must show new leadership. They will sometimes have to assume a coaching role in order to involve people from all layers and sectors in the process. It will then be possible for port and city to rediscover each other and, through “bold imaginaries”, revitalise their relationships.

Main Conclusions from the rapporteurs in short:

- **Circular Economy** is driven by synergies; to achieve different material flows, it needs interaction of many stakeholders on different levels and needs tailor made governance. It is about economy, so about benefits as well, which should be passed on at the right place of the ‘circle’;

- **Climate resilient** port cities need awareness, leadership and interconnectivity. Planners should work with communities and nature. They need better access to knowledge. Policy makers should create more stimulus and clear guidelines for businesses;

- **Joint Planning Strategies** are needed for the areas between port and city, which must remain “incomplete” in order to adapt to dynamics and to provide space for experimenting and prototyping;

- **Innovative Business Climate** can be established by attracting new businesses and bring them in contact with the “old” industries. Authorities, knowledge institutes and private parties should create intensive (informal) networks. These networks and actors should be made transparent, e.g. through visualisations;

- **Smart Green Technologies** need smart people to be successful, so people come first. Implementation is a matter of local context and conditions, but cooperation is in all cases the key success factor;

- **Social Innovation** accounts for 75% of successful innovation, technology only 25%. Port Cities should draw up a Human Capital Agenda with a long-term strategy in order to create a resilient working community that is ready for the future.

13 October 2016
What is the best way to adopt a true circular economy policy? Does it require a focus on port cities only, or a more open and complex approach that extends to port regions in the geographic sense, whilst also including the different activities and stakeholders concerned?

What will the efficient port city of the future look like, in terms of both wealth creation and optimum resource management? Will it still mean continually increasing tonnages?

In these new development frameworks, how will public decision-makers reposition themselves and ultimately become essential stakeholders (again), among all the others?

Port/cities are ideal test cases for smart technologies, and their role will become greater as smart industry communities develop, demands for radical traceability and supplier transparency increases and new forms of collaboration emerge. More support for collaboration, cross-fertilisation, experience sharing and experimentation is what port/cities need to get on the forefront of smart technologies. How does the public can organise and image this further support?
How can innovation and experimentation in new planning, urban design, new technical solutions and inclusive management help to create liveable and sustainable waterside neighbourhoods and connected cities?

What flexible crossovers are necessary to enable meantime and future opportunities? How to plan for the “incomplete” to meet future needs?

How to ensure that good urban environments, inclusiveness, well-being and other soft values go hand in hand with promoting efficient infrastructure and smart logistics to strengthen the economy and sustainability of the port cities and regions?

In a complex context of port cities where exist large uncertainties about long-term trends, how to enhance scenario planning and strategizing methods to envision a port in 2050?

What tools to facilitate deep and broad thinking about these new challenges and to help port stakeholders today find opportunities to plan now for a very different future? How should we consider the option of adaptive management and planning domain for our port cities?

How to implement procedures and techniques to engage multiple stakeholders in a dialogue about the future, realistic scenarios, and opportunities for pro-active planning to ensure a healthy and vibrant port-city future in the face of climate change?
During the 15th World Conference Cities and Ports, the debates about the Social Innovation theme could be sum up in 4 bullet points:

- From conservative port management 1.0 to creative innovation 4.0;
- 25% of innovation success is determined by technical innovation 75 % by social innovation;
- Social innovation for preventing job losses;

The transition towards the next economy will transform the landscape of port-cities and pose unprecedented strategic challenges for all stakeholder groups involved. How can we further capitalize on the human capital in port-cities through social innovation to address these challenges in a way that fosters competitiveness, employment and inclusive growth?
What did we learn in our session? Maybe, firstly, that circular economy is not a new topic, it is something that we have forgotten in a world where energy is abundant and cheap. So we need currently to develop and to imagine new links in our areas with a large diversity of stakeholders in order to implement new kinds of synergies. Synergies could be represented both by human and technical aspects. And we have seen with our different speakers that synergies could be implemented in a diversity of areas (from a local industrial scale to port and metropolitan scale) and we have seen that the exchange of material and energy flows could address some activities in industrial area and between industrial areas and urban or agricultural areas (for instance with the reuse and valorization of heat and CO2 in Rotterdam). We can talk about functional interactions between these systems in order to improve their own management of resources. We can also have some new synergies imagined at a river scale, with the case study of Grand Paris and connection with the Seine River to manage the huge flow of construction materials. We have common issues, especially with the energy challenges (reduction of fossil fuels and CO2 emissions).

And to do that, we need to impulse the motivation (awareness) of stakeholders, especially the private sector (industries, etc.). So we need to show them the outcomes of synergies and the different benefits from an economic point of view and also from an environmental or social point of view. The example of Strasbourg was very interesting for that in order to motivate and to involve the companies in this cooperative approach, to evolve from a quick wins approach to a long-term approach. And we need a leader, sometimes it could be the port authority, sometimes it could the public authority and sometimes the private sector and sometimes a mix of them through an association or an independent or research structure like in Bristol or Becancour.

Finally, to do that, we also need to create and to imagine some new technical loops and here we have seen in the Pilot Plant One a very good illustration of the crucial role of innovation in circular economy. We need creation of knowledge, new tools, creative people and entrepreneurs who can experiment their demonstrator especially in port and industrial areas, which are some very relevant places or labs to do that. And a crucial point that we need to understand that innovation is a risk and we need to deal with this reality to progress. We have talk about success but also about bad experience.

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So we need to progress and to adapt, and to be allowed to experiment in the field of circular economy, that's why we have already some real challenges for tomorrow but also some good perspectives to work together after this Conference!
The role that new technologies can play in the development of port cities took centre stage during the last AIVP conference in Rotterdam. One of the parallel sessions focused on Smart Technologies and allowed participants to listen to distinguished speakers and to interact with experts. The session started with a strategic outlook on the role of innovation with an inspiring speech by Märta Rehnberg where she questioned the traditional approaches to innovation based often on a conservative and risk-averse attitude. She argues that disruptive innovation has such a high potential that although the risks are there, there are far higher risks in staying behind. The presentation was followed by speeches by Rob Bagchus, Jan Oostrom and Maurice Meehan, who illustrated the current state of development of smart technologies in the port sector, in the energy sector and in the transport and logistics areas. They all identify the need for a higher penetration of smart technologies in the business.

The topic of Smart technologies was also discussed on the second day with a presentation by Elaine Trimble from Siemens. She illustrated how innovation is the centre of the strategy of large companies such as Siemens, who try to support disruptive innovation through incubators and in addition to their own research. The session also offered insights on the role of start-ups in the port and transport sectors by showcasing three start-ups that have been selected in the context of Port XL, the innovation support programme of the Port of Rotterdam.

The three companies represented were Staffaipi with (UCLS) Universal Container Locking System, Ranmarine and Pingle. Staffaipi illustrated their idea of resolving the problem of twist locks in containers, that are cause of inefficiencies and put workers at risk. Ranmarine showed their Waste-shark, a drone that is able to collect floating garbage from port areas, while Pingle is a platform to manage training and certificates for seafaring personnel. The session also discussed the role of the Port XL program that has favored the transfer of start-up to Rotterdam. In the discussion after these presentations it became clear that costs and benefits of these inventions sometimes are not linked to the same party. This will stop further development. New technologies based on data and invoicing might bring new solutions to organize invoicing differently in order to make the innovations profitable.

The Smart Technologies conference stream also included a discussion workshop that was attended by about 30 participants and helped going more in detail in some of the topics illustrated during the presentations and allowed also the authors of poster presentation to comment on their research. In particular attention was given to what are the mechanisms for new technologies to spread and how to overcome the initial stages of innovation uptake where traditionally costs are high and market penetration is still limited.

Overall the sessions offered an inspiring overview of current status of new technologies and the challenges associated to their uptake. Among the lessons learned the delegates highlighted the importance of considering multiple perspectives in the analysis of new technologies, the increase in awareness and the gap in uptake between port and cities and private companies and ports.

Among the main challenges ahead the session highlighted the different pace of innovation between ports and cities, the risk associated with new technologies, specifically when not fully dependable, and how to gain competitive advantage from Smart technologies. Particular emphasis was placed on the uptake of Smart technologies in developing countries and the need to increase transparency and accountability of transport processes, for which there is the hope that Smart technologies can help resolving some of challenges associated with these issues.
We need both prosperous ports and liveable cities. As Professor Peter Hall highlighted the problem is that port authorities view residents as barriers. City officials see ports and cargo as irrelevant to the post-industrial growth. He emphasised instead that cities and ports are greatly connected: the waterfront and other related spaces to the economy of ports in the metropolitan space are deeply connected. In this connection, the need to align city planning research and harbour-front development research through an integrated approach appears greatly important. The whole eco-system of the port city/port region in terms of economy, society, culture, human capital, environment and space should be addressed when developing strategies and plans for more sustainable development.

Peter Hall’s suggestion that waterfronts are places for dualities: between city and water, work-leisure, industry-nature, global-local relationships and across port and city underpins his call to plan across these divides. The importance of planning across divides invites City and Port actors to join efforts and to plan for connected city areas with diversity of uses avoiding as possible the development of mono-functional areas and making place for diverse residents and businesses while managing the port-city interface.

While several presenters emphasised the importance of facilitating for mixed-use development and giving access to the public, learning from Rotterdam, Rouen and other cities like Copenhagen emphasises the importance that port cities should value developing qualitative living environments on their waterfronts and in their cities both for the sake of their inhabitants and for their economy to thrive. Cities should improve and diversify their housing offer and their exchange and business environments to be attractive cities: good to live in and as desired destinations for companies and new human capital and visitors.

Different level public actors and private stakeholders should join efforts and demonstrate responsibility to improve conditions in the cities, through participatory approaches that include the citizens. Several presenters emphasised interest for involving the citizens in developing strategies although it slows processes down. While this is encouraged from a social perspective in some cases, its importance for avoiding failures of projects was highlighted.

Professor Carola Hein emphasised, with reference to Rotterdam metropolitan area, the importance of understanding the impacts of changing innovation cycles. Our planning should be prepared and adaptable to new innovation cycles. The increasing introduction of smart technologies and moving to Smart Cities have great impacts on our space use, organisation and society, implying the importance of a new understanding of opportunities and challenges and a new-thinking planning. It recalls the importance of building resilient systems to face climate change, changing economy and for coastal management.

The new opportunities related to waterside development areas and generally in the port city offer a great chance to experiment with new concepts and methods in terms of technical solutions, management concepts, legal tools and financial models. Innovation appears as a key value to deal with different challenges facing ports and cities, including the scale of the port areas to adapt. Our message based on lessons from our site visit to the Innovation District in Rotterdam and the Singapore case is: if you have too much space? Use it for innovation! Too little space? See it as an opportunity for innovation!

Like in other parallel sessions of the conference, our discussions supported the importance of planning for flexibility to meet an unpredicted future in contrast with detailed planning. Professor Peter Hall emphasised flexibility as an important approach, and invited to plan for “the
Incomplete” leaving space for the future needs as the relationship between cities and ports is shifting. The research group from SLU University, Malmö, Sweden, introduced the concept of “Planning for the Meantime” as a means to benefit from and control development in times between the launch of projects and their implementation as many projects face difficulty underway, and to overcome gaps when the economic situation or other conditions retard the planned development.

Different cities need different tools! We need to understand the cultural and contextual differences that underpin strategies and governance forms in different port cities. We need a new mindset of planning that is flexible and adaptable.

Challenges for the port cities:
- Create a shared understanding of challenges and opportunities related to ports and cities’ development among all agents and across levels: awareness and knowledge-sharing;
- Needed suitable management, financial and legal structures to support innovation;
- Managing energy transition and climate change and coastal areas.

The Rapporteurs of the Joint Planning Strategies theme prepared a longer version of the synthesis. It is available only in English. If you are interested please contact the AIVP: aivp@aivp.org
The Climate Resilience topic was approached by panellists from a wide variety of perspectives. Some presenters discussed the “mitigation” aspects of climate change, through schemes to reduce CO2 emissions. Others focused more on the “adaptation” side of climate change, looking at ways sea level rise and storm threatened their port cities.

As port cities contribute to climate change through emissions from port-related industry and shipping, ports can take responsibility to help reduce CO2 emissions by encouraging environmentally friendly shipping. One approach is through a pledge for “slow shipping” as presented by Mr. Ronan Dantec, Sénateur, Porte-Parole des GouvernementsLocaux pour la COP 21, Paris, France. Another is through the reuse of waste materials, as presented by Almudena Ruiz de Angulo Del Campo, Directora de Infraestructuras del Transportes, Gobierno Vasco, España. Even small ports like Mauritius show that it is possible to plan new facilities using less CO2-producing air conditioning facilities (RamalingumMaistry , Chairman, Mauritius Ports Authority, Port Louis).

The main topic, however, was discussing the effects of climate change in port planning, in terms of adaptation for port and port cities in the future. Conversations during port city labs suggested that dealing with the effects of climate change is still not high on the agenda for most ports and port cities, even though the continuing functionality of ports is crucial to local, regional and national economies.

Speakers from the Netherlands illustrated ways to approach sea level rise as a combination of risk assessment and reasonable planning strategies (Prof. Jaap Kwadijk) and described approaches to flood proofing port areas, along with managing water on both the large and small scale (Dr.Arnoud Molenaar, Chief Resilience Officer Rotterdam). In Toronto, a large scale land reclamation includes techniques to “building with nature” and create a sustainable and flood-proof expansion area close to the city center. This area will provide new living and business areas designed to blend with nature (William Fleissig , President and CEO, Waterfront Toronto, Toronto, Canada).

Climate Resilience port planning requires long-term planning and the involvement of all stakeholders in the port area to develop a joint strategy in order to adjust to rising sea levels. In Rhode Island, stakeholders came together to discuss storm scenarios and explore long-term transformational approaches to adaptation that will inevitably be necessary in many coastal areas as sea levels rise and storms worsen over the coming decades (Austin Becker, Assistant Professor - Coastal Planning, Policy and Design, University of Rhode Island, USA).

In the discussions after the presentations and during the workshops and PortCityLabs different issues were raised.

- Climate and weather data is needed in a usable format, especially on a local level to predict hurricanes, sea level rises to adjust to calamities (statistics, information position).
- Bottom-up as well as top down strategies are necessary for (long term) planning strategy and (short term) response strategies.
- New funding models for adaptation are necessary, including international support and funding for poor countries.
- The private sector needs to be included in strategizing and planning, as well as investment for resilience.
- Both the goals for a strong economy and the goals for a healthy ecosystem must both be taken into account in decision making.
- More political support is necessary.
• Within Indian Ocean Community: collaborative actions between the ports and Islands to acquire and share the right (technical) expertise and assistance, develop solutions and raise funds.
• Organizing International Funding to help poorer countries.
• Stimulate Innovation. Small start-ups / Wild Ideas to save the world.

Conclusion. Climate change impacts, such as sea level rise, will have profound impacts on ports and port cities. The Crossovers conference 2016 in Rotterdam revealed that not enough people are even thinking about this problem yet.
16th WORLD CONFERENCE CITIES AND PORTS

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