

INNOVATIVE

# CITY-

BUSINESS COLLABORATION

**County of Scania, Sweden**  
– Resilient Regions Association

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## ABSTRACT

Established in 2011 in the County of Scania in southern Sweden, the Resilient Regions Association (RRA) was co-founded by public and private actors to address resilience challenges. The association's goal is to build more resilient societies with the ability to quickly overcome and recover from social, environmental and economic pressures.

To address Scania's regional challenges, the RRA established Resilient Community Skåne (RCS). It is comprised of a political network mandated with establishing the overarching agenda for the work of RCS and embedding resilience in Scania's long-term political decision-making and an executive's network that brings together public and private stakeholders with direct interests, responsibilities and needs to build capacity and develop strategic initiatives.

RRA and its Resilient Community Skåne organize thematic workshops, advance research on urban functionality and generate integrated solution approaches that they plan to implement in the future.

## REGIONAL CONTEXT

The County of Skåne (Scania) is the southernmost province of Sweden. With an area of 11,000 km<sup>2</sup> and a population of 1.2 million inhabitants, it is the country's second most densely populated area. Scania is comprised of 33 municipalities. Malmö is the largest one, with a population of over 300,000 inhabitants, followed by Helsingborg and Lund. Moreover, western Scania is situated in the Öresund border region, connecting it with Denmark's Greater Copenhagen area. The entire cross-border region has a population of 3.8 million people.

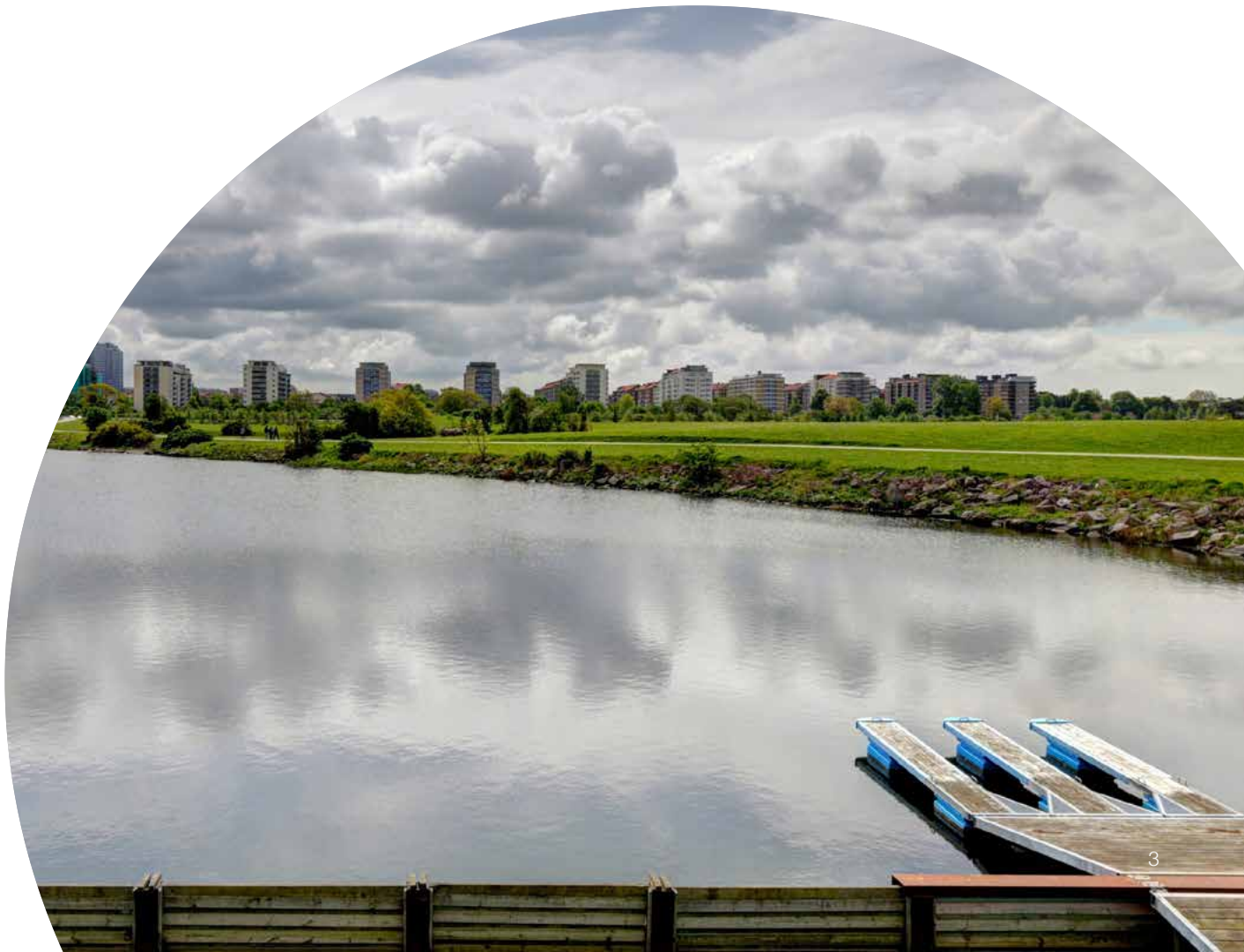
Along with the region's focus on food production and processing, Scania's economy is primarily based on high-value-added sectors such as life sciences, multimedia, information and communications technology (ICT) and clean technology. Indeed, Scania has distinguished itself as a research and technology hub, particularly through its universities in Lund and Malmö and strong regional innovation policies and initiatives. Due to its expanding sectors and proximity to the Copenhagen area, Scania has been growing faster than the rest of the country, both economically and in terms of population.

## Resilience challenges

To improve Scania's sustainability and resilience while retaining and enhancing its attractiveness, it is critical to maintain the region's infrastructure and functionality, especially in light of a growing urban population. With the global issue of climate change translating into region-specific challenges such as rising sea levels and urban heat islands, the region is under increasing pressure to ensure that its cities function in an efficient, smart and sustainable way. This necessitates a regional resilience and urban sustainability perspective and the fostering of effective collaboration between multiple cities in their common geographical area.

Systemic urban flows of people, money, goods, services, energy and information are a key aspect of city resilience, sustainability and functionality and inherently linked to their surrounding region. Realizing that such flows are often operated by companies either through the private sector or municipally owned entities, resilience is not a mere public matter but also an issue for the business sector and necessitates city-business cooperation.

Due to the large number of actors involved, it is crucial to establish the necessary personal and institutional links between the relevant stakeholders through a common and neutral platform to jointly analyze, discuss and act on urban functionality and resilience with a focus on urban flow functionality. The Resilient Regions Association (RRA) was initiated to bring together these actors and advance structural capacity-building, exchange and joint action on resilience. Realizing the need for regional platforms working towards improving a specific area's functionality, RRA developed the Resilient Community model for multi-stakeholder regional cooperation. The Resilient Community model RRA first established Resilient Community Skåne (RCS) to improve urban flow management and resilience in the County of Scania.







## OBJECTIVES

The objective of the Resilient Regions Association and its resilient community concept is to generate increased resilience by bringing together urban flow stakeholders to address regional and long-term challenges resulting from social, economic and ecological pressures, leading to more functional and attractive communities. RRA's mid- to long-term objective is to replicate this model in other regions across the country and internationally.

Resilient Community Skåne specifically seeks to enhance resilience and urban flow management in the County of Scania.

## INITIATOR OF THE COLLABORATION

The Resilient Regions Association was established in 2011 as one of seven regional innovation cluster initiatives in Scania. RRA has positioned itself as a neutral arena where the public sector, the private sector and academia meet and collaborate to develop solutions for a more resilient society.

E.ON, SAAB AB, the insurance company If, the Swedish Armed Forces (Försvarsmakten), Lund University and Scania's County Council (Region Skåne) are the founding members of the non-profit association. Originally established under the label Training Regions, RRA's initial focus was on safety and risk management. In 2013, it shifted its focus to overall resilience planning and management. Since its inception, membership has grown to include more public, private and academic entities from various parts of Sweden.

Scania was the natural choice to serve as the first resilient community due to the existing network and founding members. Since early 2014, Resilient Community Skåne has been focusing on building a more adaptive Scania with robust functions and flows. RCS is open to the region's system-controlling actors, such as its municipalities, regional authorities, private companies and researchers, as well as everyone interested in working towards the community's goals. Participation in RCS is formalized through membership in RRA.



**RESILIENT  
REGIONS  
ASSOCIATION**

Head  
Legal form  
Founded in

**Magnus Qvant**  
**Non-profit**  
**2011**

# PARTICIPANTS IN THE COLLABORATION

## REGION AND MUNICIPALITIES

Region Skåne is Scania's regional council. It is composed of an assembly that serves as the highest political decision-making body and an executive committee. The council is mainly in charge of the public health care and public transport systems. Further responsibilities include the promotion of regional business development and interregional cooperation. Within this remit, Region Skåne was one of the founding members of the Resilient Regions Association and Resilient Community Skåne. In fact, the previous chair of Region Skåne's executive committee played an important role in establishing RCS and building political support for the initiative.

Scania's county administrative board (Länsstyrelsen Skåne) and the region's association for local authorities (Kommunförbundet Skåne) are further important public members of RRA and active in RCS.

Malmö and Lund were the first two municipalities to join the platform, followed by Båstad. Moreover, the municipalities of Kristianstad, Helsingborg, Trelleborg, Eslöv and Landskrona are participating in activities arranged by RRA. The municipal departments involved are foremost those related to risk management, environmental and city planning, as well as business development and innovation.

## BUSINESS

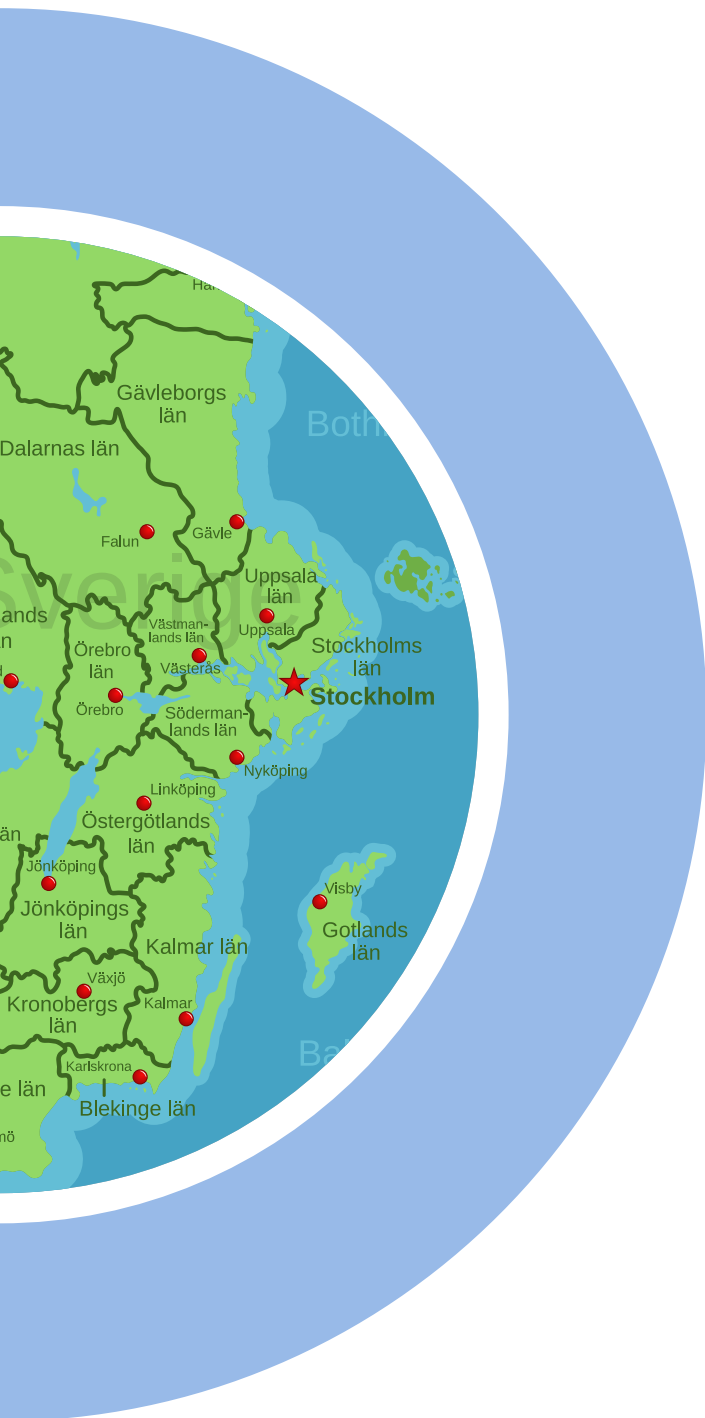
The Resilient Regions Association divides the private sector into two categories according to their roles in city-business cooperation. On the one hand there are those companies that contribute to operating cities by providing vital functions such as water and wastewater management, electricity and heat. Their objectives are closely aligned with those of the cities in which they operate as they aim to achieve higher urban efficiency and resilience while ensuring the cost-effectiveness of the operations.

The other type of company consists of the solution providers that are interested in selling their technical products and services to cities and regions. Their main interest lies in generating a greater market share.

Both types of companies are members of RRA and participate in RCS. The companies involved range from small enterprises such as iFACTS, 4C Strategies and Combitech to large companies such as Siemens, SAAB, IBM and E.ON.

## ACADEMIA

As one of RRA's founding members, Lund University has played an important role in shaping the association's urban flow methodology through conceptual and applied research. Its Center for Societal Resilience contributed to the establishment of RCS. Malmö University is another academic member of RRA. Its Internet of Things and People Research Center is involved in resilience research and capacity building. Both universities are members of RRA's board.



# COLLABORATION PROCESS AND GOVERNANCE

The Resilient Regions Association addresses resilience from a holistic perspective by providing a collaboration platform for public and private actors managing urban flows. In addition to being able to participate in RRA's open arena, its members gain access to current research and best practice knowledge through seminars, training, workshops and study trips. These are carried out by the association's wholly-owned non-profit service company Resilient Regions International.

The association's day-to-day operations are managed by a team of four staff members. In line with RRA's multi-stakeholder approach, its board is comprised of 12 members—six from the private sector and six from the public sector.

RRA serves as an umbrella organization that provides services to Resilient Community Skåne and any future resilient community to be established in other parts of the country and abroad (see figure 1).

Resilient Community Skåne operates via its two steering networks. The political network consists of local and regional politicians. They are mandated with establishing the overarching agenda for Resilient Community Skåne's work and embedding resilience in Scania's long-term political decision-making.

The RCS executives network consists of municipal leaders and managers from the business sector who operate in the systemically and socially important material and resource flows of cities. The executives network meets on a quarterly basis to identify, define and prioritize regional challenges and generate project ideas. It also makes decisions concerning study tours, workshops and conferences that are then provided by RRA's service company. In its overarching role, RRA supports the work of the executives network by providing feedback, channeling resources, and identifying funding opportunities and suitable partners.



**Figure 1:**  
Resilient Regions Association and its resilient community concept (2015)

To ensure that the political and executives networks are adequately linked, joint meetings between the two entities are envisioned.

# TRANSPARENCY AND ACCOUNTABILITY

The process of developing the Resilient Regions Association and its resilient communities concept has been a multi-stakeholder effort since the beginning. To date, ensuring balanced co-ownership remains of high importance to RRA. As a result, the association's board is equally staffed by representatives from the public and private sectors.

Furthermore, RRA and RCS membership is open to any entity that has a stake and interest in regional resilience. All protocols and documentation are available through formalized membership. Several RRA and RCS activities are also open to non-members. This ensures that all relevant stakeholders are able to participate in the association's and community's work on resilience.

To guarantee that the work of RCS is in line with regional public interest, economic development and environmental protection, the political network is charged with providing its overall agenda. Along similar lines, it was decided that a mayor or municipal director would be elected as chairperson of the executives network as opposed to a private sector representative. Resilient Community Skåne, for instance, is currently headed by one of the municipal chief executives.

While individuals and citizens are not represented in RCS itself, they may be involved in specific projects such as focus groups. At this stage, however, there is no mechanism to actively incorporate citizen participation in the resilience work. Similarly, national agencies are not directly involved in RCS; however, several of them have engaged in dialogues with RRA to provide input into the association's work.



## FINANCING

The Resilient Regions Association and its Resilient Community Skåne are financed through membership fees. In fact, to be able to participate in the regional community, an entity needs to become a paying member of RRA. Membership dues differ between the various entities. Municipalities pay annual fees as determined by their population. Private companies and organizations, on the other hand, pay a service fee based on their annual turnover in addition to a fixed membership fee. Authorities and regions are charged according to yet another scheme.

The money is used to cover staff costs and to finance RRA and RCS activities. Funding for large-scale project implementation is primarily sought from Sweden's government agency for innovation, VINNOVA, as well as from the EU-level through, for example, the Horizon 2020 framework.



# PROJECTS AND ACTIVITIES

Since the Resilient Regions Association and especially Resilient Community Skåne are still in the start-up process, most of their outputs to date have been in the realm of research, capacity building and stakeholder engagement.

## Research

Theoretical and practical research on resilience and urban flows provides the basis for the work of RRA and RCS. Since 2012, extensive research has been conducted in the field (see example 1).

### 1 Urban flow research

In collaboration with Lund University, the municipalities of Malmö and Lund, and the company iFACTS, a method was developed to identify and measure urban flows at a local level. In 2012 and 2013, the model for data collection was tested on municipal and private system-controlling operations, and pilot tests were carried out in Malmö and Lund. In late 2013, the method was further developed with a focus on how to use the analysis and draw conclusions. The results and methodology will be published in early 2015 in the form of a handbook. This will include a concrete and practical description of the steps required to conduct an urban flow analysis.

## Workshops and seminars

Workshops and seminars have been held on a regular basis to build members' capacity on specific topics. After the flooding in Malmö in August 2014, for example, an urban flow analysis workshop about the consequences of the heavy rainfall and the impact on the city's societal functions was organized. Moreover, a workshop analyzing the food supply in the region was conducted in November 2013 (see example 2).





## 2 “Problem challenging workshop” on food security

Most grocery stores depend to a large extent on international suppliers for their daily deliveries. Disruptions in international supply chains can easily put the food supply for large cities at risk. In cooperation with the Swedish National Food Agency (Livsmedelsverket) and the Skåne Food Innovation Network (Livsmedelsakademin) Resilient Regions Association organized an expert workshop in November 2013. Twenty-six stakeholders, representing regional municipalities, authorities, the public sector as well as academia, met to discuss and brainstorm the regional challenges and solutions associated with ensuring an effective and efficient food system. One outcome was the identification of the need for a centralized food distribution plan to react to crises. In the case of Malmö, workshop results suggest using the city's five market places to distribute food effectively for the whole city, rather than relying on logistically complicated distribution through decentralized grocery stores. Actors from the municipalities and companies have since been discussing concrete implementation requirements.

### Annual conference

The first annual Functional Cities conference was held in October 2014. Speakers presented on how cities can maintain their functionality, attractiveness and effectiveness in the future, even under societal pressure. To disseminate the outcomes of the conference, a mini book, *Bigger Faster Wetter*, was published summarizing the presentations.

### Study trips

Several study trips have been arranged for RRA and RCS members in order to gain national and international knowledge and expand their networks beyond regional and national borders. For example, Swedish delegations have participated in ICLEI's Resilient Cities conferences in Bonn, Germany, and the Smart Cities Expo in Barcelona, Spain.

### Future projects

To add to the outputs and outcomes that have been generated to date, RRA and RCS are continuously identifying new projects within the realm of resilience. Several project proposals are currently under review and funding is sought from the national and EU-level to implement them. In addition, a new format for city-business interaction will be introduced (see example 3).

## 3 Solution pitches

In order to create a platform for innovative thinking and a stage for technical solutions, Resilient Regions is planning to organize solution pitches. Similar to elevator pitches, the idea is to bring different entrepreneurs together in a venue and let them present their state-of-the-art products and services. During sessions of 90 minutes per presentation, the participants will introduce their concepts and products to a mixed audience from the public and private sector. The workshops have two purposes. Firstly, interested parties are offered an overview of available technology. Secondly, individuals from the businesses and municipalities involved can directly meet, exchange follow-up questions and discuss further steps. The presentations will be compiled in a library and made available to members.



# LONG-TERM IMPACTS

The Resilient Regions Association and resilient communities concept were established to provide long-lasting and expanding platforms for capacity building and stakeholder engagement. As the networks have grown, more and more system-controlling actors and solution providers have met to discuss problems, exchange ideas and brainstorm innovative solutions. New contacts between public, private and academic leaders have continuously been established, some of which have led to concrete collaborations outside the arena (see example 4).

## 4 Connecting solution providers with the public sector

Small and medium-sized companies that function as solution providers often lack the capacity to do a large-scale market analysis to identify a common challenge for which their product provides a solution. While their products may hold much potential to address a city's needs, concrete opportunities for application within urban systems and the resulting improvements often remain to be identified and translated into non-technical language. In such cases, facilitation between public sector representatives that are aware of the cities' needs and solution providers can prove to be very helpful. One example is SIGMA, a Swedish ICT company that developed a multi-sensor monitoring instrument incorporating nine different sensors with a battery life of up to six years, Bluetooth connection and a total production cost of about US\$ 15-25. This platform can be used to act upon data in real-time. It can be used to monitor bridges and dykes, within facility management solutions, etc. The sensors that have been used so far are temperature, humidity, air pressure, light, moisture, accelerometer, gyroscope, e-compass, CO<sub>2</sub> and passive infrared. It is easily integrated with external data services like weather forecasts. Resilient Regions Association facilitated a dialogue between the solution provider and local government representatives. As a result, SIGMA has been involved in different projects on tunnel surveillance, micro weather monitoring and surveillance of dykes keeping water from reaching a city situated below sea level.







# FUTURE AND ADDITIONAL COLLABORATION

As the first resilient community evolves, other Swedish regions and neighboring countries are already expressing their interest. According to RRA's strategic plan for 2015-2017, the association seeks to have established at least three resilient communities in Sweden and to have laid the foundation for one international community by the end of 2016. Discussions are currently underway in the areas of Stockholm, Linköping and Denmark.

In addition to spreading the resilient communities concept, RRA engages in conversations and collaboration efforts around thematic issues (see example 5).

## **5 International cooperation for firefighters**

In order to be truly resistant to environmental shocks, the measures to establish resilience should not be confined to municipal or even national borders. Resilient Regions Association has taken a first step in establishing cross-border services and is currently facilitating international cooperation between Swedish and Danish firefighting services in the Öresund region. As the Swedish training and education system in firefighting and disaster response is recognized for its holistic and comprehensive approach, the Danish municipalities welcomed the proposal for collaboration. Bordering cities will benefit significantly from such cooperation because of resource-pooling in manpower, equipment and knowledge. In this way, shocks such as damages from floods and storms will be easier to deal with in the future.

# ANALYSIS



# INNOVATION

Resilient Regions Association and Resilient Community Skåne use an innovative framework for city-business engagement: By focusing on resilience and cities' dependence on functional urban flows, they ensure that the multi-stakeholder conversations are problem-driven and solution-oriented. Instead of addressing specific issues, an integrated systems approach drives their agendas.

Working with resilience is a complex endeavor. To identify and contextualize urban flow interactions, the Resilient Regions Association uses a triple helix research model: As opposed to the traditional academia-centered approach, it also includes private companies and the private sector.

The division of companies in system-controlling actors on the one hand and solution providers on the other presents a novel point of departure for private sector engagement. Companies operating vital urban functions are assumed to share the same city objectives as public entities. Due to their important role and long-term experience, system-controlling actors often have a better understanding of the requirements of a city in terms of resilience and urban flow management, while solution providers often focus on developing their products and services (see example 3).

## CHALLENGES ENCOUNTERED

The Swedish elections in September 2014 took a particular toll on the expansion of Resilient Community Skåne's activities. Its political network was brought to a standstill due to the turnover of elected officials, some of which had been major drivers of the network. While the newly elected politicians show positive interest in RCS and resilience as an emerging topic, more time is required to form the new political agenda.

## SUCCESS FACTORS AND LESSONS LEARNED

While enhancing resilience and urban flow functionality is important for any region, establishing a resilient community needs to be seen as a process—from the identification of challenges, stakeholders and different interests to the actual launch of the regional platform. The following aspects have been proven necessary in setting up a resilient community.

### **Shared objectives**

By differentiating between the different types of industry players and recognizing that cities and system-controlling actors from the private sector share similar objectives, interaction between the two entities is more open. As a result, it is easier to collaborate openly on resilience and urban flow challenges.

### **Open arena**

Providing a neutral meeting place to discuss and exchange ideas is of utmost importance in enabling city-business dialogues. Both RRA and RCS provide such an open and neutral arena.

### **Political will**

Political will and the ability to attach the community agenda to the local

and regional plans are crucial to the success of the resilient communities concept.

### **Communicating research**

Academic research needs to be “translated” into the language of cities and businesses. To make scientific findings easily understandable and applicable, RRA has decided to publish a handbook for practitioners instead of academic papers.

### **Continuous capacity development**

Adopting a resilience and urban flow perspective requires a deep understanding of the concepts. Continuous learning through workshops, study trips and research is necessary to build capacity.

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# IMPRESSUM

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