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Smart mobility Swiss innovations

Swiss session at the 9th Urban Mobility India Conference & Expo

November 10th, 2016: 11.30 am – 4:00 pm Mahatma Mandir, Gandhinagar, Gujarat



Embassy of Switzerland in India







Smart mobility - Swiss innovations



Construction of the new city cross link in Zurich, Switzerland (Photo: SBB AG)

India is rapidly urbanizing and estimates show that by the year 2032, India's urban population will exceed its rural populace. Cities are one of the major hot spots in terms of development. This will result in massive energy requirements for economic activities and infrastructure. At the same time cities are sources for greenhouse gas emissions and vulnerable in terms of climate change. Urbanization in India therefore offers great potentials for mitigating climate risks and ensuring sustainability.

Rapid urbanization also poses challenges for mobility and transport. Most Indian cities are witnessing an increase in congestion and a rise in air pollution. As India moves towards investment in urban transformation, there is a growing realization of the need to improve mobility by addressing the demand side of urban transport systems.

Switzerland has been able to implement some smart urban mobility and transport solutions. Can India learn from Swiss experience and innovations around mobility solutions? While it is understood that these solutions may not be replicated one to one in the Indian context, can some of these innovations be adapted to meet the growing requirements of the cities in India?

The Swiss session "Smart mobility – Swiss innovations" at Urban Mobility India Conference 2016 aims to share lessons and explore how Swiss innovations in urban mobility can be put into practice in the Indian context. The session will focus on the role of public transport and innovative mobility solutions implemented in Switzerland. The distinguished speakers will discuss the experience, challenges and opportunities for a more sustainable future of mobility in India.

Shirish Sinha

Deputy Director of Cooperation Swiss Agency for Development and Cooperation (SDC) in India

Program Swiss session

Smart mobility - Swiss innovations

November 10th 2016: 11:30 am – 4:00 pm

Moderator: Shirish Sinha

11:30 am Welcoming address

Dr. Andreas Baum

Ambassador of Switzerland to India and Bhutan

11:45 am Presentation and O&A

Strategic network planning and success factors of urban public transport

Dominik Brühwiler

Deputy Director Zurich Transport Authority ZVV

12:00 am Presentation and Q&A

Swiss innovations in the Rail sector

Michele Molinari

Board member SwissRail Industry Association; CEO Molinari Rail Ltd.

12:30 am Presentations and Q&A

Driverless cars and public transport

Prof. Yann Bocchi

Head of the Software Engineering Unit

at University of Applied Sciences and Arts Western Switzerland Valais

Raphaël Gindrat

CEO BestMile

Ritukar Vijay

Robotics-Tech & Strategy Leader Hi-Tech Robotic Systemz Ltd.

13:00 pm Networking lunch

14:30 pm Presentation and Q&A

Swiss made Urban Mobility Consulting:

Lessons learnt from emerging countries (Morocco)

Martin Stucki

CEO Transitec Consulting Engineers Ltd.

14:55 pm Presentation and Q&A

Mobility policy for the future: Vision Mobility Switzerland 2050

Dr. Thorsten Klaas-Wissing

Vice-Director Chair of Logistics Management, University of St. Gallen

15:10 pm Roundtable discussion

Smart mobility – future challenges for Switzerland and India

Vijay Nehra, Vice Chairman & Managing Director, Gujarat State Road Transport Corporation

I. C. Sharma, National Project Manager, Sustainable Urban Transport Project (SUTP) India

Dr. Thorsten Klaas-Wissing, Dominik Brühwiler, Martin Stucki

Come visit us at Exhibition Stall No. 14 (8th-11th November 2016)

Delegation from Switzerland

Smart mobility - Swiss innovations

November 10th 2016: 11:30 am – 4:00 pm



DOMINIK BRÜHWILER

Dominik Brühwiler (born 1969 in Switzerland) is a member of the Zurich Transport Authority (ZVV) management and since 2007 has acted as its Deputy Director. He graduated in 1993 at the Swiss Federal Institute of Technology (ETH) in Zürich with a degree in civil engineering and specialization in transport planning and technology. Afterwards he worked for two years at the Institute of Transport Planning and

Transport Systems at the ETH. From 1996 to 2000 he worked abroad for Elektrowatt Engineering Ltd (today Pöyry Plc) as a project manager for railway projects in Latin America, especially Venezuela and Mexico. Since 2001 Dominik Brühwiler has worked at ZVV. As the Head of Transport Planning department he is responsible for planning of the offer and infrastructure of the public transportation in the canton of Zurich.

Zurich Transport Authority ZVV

The ZVV is the largest public transport association in Switzerland. It performs integrated strategic planning while coordinating, marketing and financing public transport in the Canton of Zurich. Every year, the ZVV carries more than 620 million passengers. The ZVV itself is not operationally active: transport services are provided solely by its transport companies. Around 65 per cent of the ZVV's annual expenditure is covered by ticket revenue. The ZVV brings together more than 40 transport companies under one roof. They ensure that regional operations proceed smoothly, timetables are maintained and budget guidelines are observed. This organizational form has proved to be economically viable, efficient and customer friendly.

Presentation

Compared to other European cities the Zurich Region in Switzerland has by far the highest public transport share. Zurich's public transport system is known for its dense network, punctuality and reliability. The presentation shows aspects of the strategic network planning and the success factors of urban public transport. In 2015 a new 10 km cross city link was opened after 15 years of planning and construction, adding a long list of improvements and upgrades for national long-distance and commuter trains. Many obstacles had to be overcome to create this sophisticated structure underneath existing buildings, railway tracks and rivers.

PROF. YANN BOCCHI

Prof. Yann Bocchi, Head of the Software Engineering Unit, Business Information Systems Institute at University of Applied Sciences and Arts Western Switzerland (HES-SO) Valais, Member of Swiss Mobility Lab Valais. Yann Bocchi studied business information systems at the University of Grenoble, France, then studied telecommunications at the University of Tours, France. From 1998-2002 he worked at ATOS

Origin, a large European IT service company, as application manager & project manager. Since 2002 he has been working at the Business Information Systems Institute at HES-SO Valais and since 2011 he is responsible for the software engineering unit. As a Certified Scrum Master, Prof. Yann Bocchi puts the clients' results and satisfaction first and takes an agile approach to project management. His current research activities are focused on information systems for the Internet of Things and mobile services.

Swiss Mobility Lab Valais

The Swiss Mobility Lab is a joint initiative between five key partners from politics, economics and academia in Valais. Swiss Post Ltd, The Canton of Valais, the city of Sion, the Swiss Federal Institute of Technology in Lausanne (EPFL) and the University of Applied Sciences of Western Switzerland (HES-SO) Valais are pooling their expertise in order to create, develop and test innovative mobility solutions. It covers many aspects of new mobility solutions: from running autonomous shuttles on open roads, drive-sharing campaign, to Smart-Cities applications using mobile sensing infrastructure, not forgetting a brand new ticketless billing system.

Presentation

Swiss Mobility Lab learnings: The importance of User Experience (UX) for Future Mobility Solutions.

What do a world famous ridesharing application, autonomous vehicles and ticketless billing system have in common? They all offer an incredibly smooth experience to their users. In the context of innovative mobility technologies and solutions tested by the Swiss Mobility Lab, offering a good User experience (UX) to your customers is crucial. In his talk, Prof. Yann Bocchi will present several Swiss Mobility Lab projects and highlight the importance of both Information Technology (IT) and UX to quicken the adoption of such services.

Delegation from Switzerland

Delegation from Switzerland

RAPHAËL GINDRAT

Raphaël Gindrat is the Founder and CEO of BestMile. In January 2014, he graduated from the Swiss Federal Institute of Technology in Lausanne (EPFL). He holds a Master's degree in Civil Engineering with a specialization in the field of transportation. He gained his management skills through a minor in Management of Technology and his 2-year term as President of the EPFL Student Association. Raphael's expertise

comes from his early involvement in the world of autonomous mobility. During the last year of his studies, he worked for the EPFL vice-presidency, focusing on the European project CityMobil2.

BestMile

BestMile is revolutionizing mobility by providing the first platform for the intelligent operation and optimization of autonomous vehicle fleets, regardless of their brand or type. Using cutting-edge algorithms, the platform sends optimized missions to the vehicles and seamlessly handles planning, dispatching, routing, and battery charging management. BestMile empowers customers to increase the efficiency of their fleet with a reduced number of vehicles while ensuring compliance regarding frequency and schedules or real-time demand. BestMile also provides both front-end and back-end interfaces for operators and passengers, such as mobile and web applications.

Presentation

The future of mobility isn't in autonomous vehicles themselves, but in what they can offer when they are operated and managed collectively in an integrated ecosystem. BestMile presents together with its Indian partner Hi-Tech Robotic Systemz Ltd.



RITUKAR VIJAY

Ritukar Vijay is a Tech & Strategy Leader at Hi-Tech Robotic Systemz, creating a global landscape of getting robotics into mainstream businesses. He is one of the early movers in robotics & self-driving vehicles in India. He has a diverse 10 years of experience in driverless vehicles, medical robotics, warehousing/material handling robots and HRI. He is the former CTO for a successful VC backed medical

robotics company and has worked with Innovation labs, TCS and HCL Tech. With his multi-disciplinary background, he is also an active mentor for start-ups in events like Startup Weekend Bootcamp, E-Summit and cross border investment events.

Presentation

Autonomous Mobility & Smart Cities - The close loop.



MICHELE MOLINARI

Michele Molinari, Board member of SwissRail Industry Association and President and CEO of Molinari Rail Ltd., has focused his work on Transportation Systems with a special focus on urban and regional transportation. He has directed and collaborated in multi-company and multi-national teams through all the stages of different projects from sales, design, manufacturing, commissioning, service and maintenance. He has put a special focus in the development, set-up and improvement of

service and maintenance organizations. In 1994 he founded his own company, Molinari Consulting, who later became Molinari Rail Ltd. Michele Molinari has work experience in various European countries, USA, China, India, Latin America, Hong Kong, Malaysia, Hungary, Israel, being on permanent assignments for two years in Medellín/Colombia and for several stays over various months in the USA.

SwissRail Industry Association

On whatever track gauge you travel, the members of the SwissRail Industry Association offer services and products for guided transport systems: Railways, trams, trolley buses and cable cars. SwissRail members secure competent advice, proven and future-oriented technologies as well as entrepreneurial drive. These correspond to the high standards expected from Swiss services and products: Precision, quality, innovation, efficiency and adherence to schedules. The Industry Association incorporates more than one hundred members and represents their interests toward politics, authorities and the media. It is present at exhibitions and networks with the most important players in Swiss public transport.

Presentation

Swiss innovations in the Rail sector: As board member of Swiss Rail – the Association representing the Swiss Rail Industry – Michele Molinari will present the Swiss Rail Industry and its most innovative products, which could also be of major interest for the Indian Rail and Metro market.



MARTIN STUCKI

Martin Stucki is CEO of Transitec Consulting Engineers Ltd and a Lecturer at the Swiss Federal Institute of Technology in Lausanne (EPFL). Mr. Stucki holds a Master of Science in civil engineering from the Swiss Federal Institute of Technology (ETH) Zurich. Now based in Switzerland, he spent most of the last decade working in and for emerging cities. Specialized in urban transport planning and traffic management, Mr. Stucki's focus is now mostly on urban mobility policy and governance issues.

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Some of his recent contributions: Urban Mobility Master Plan & Nationally Appropriate Mitigation Actions for the Greater Sfax Area (Tunisia), Audit of Dakar Metropolitan Transport Authority (Senegal), Marrakech Urban Transport Master Plan (Morocco), Traffic Management Review in Tehran and Mashhad (Iran), Africa Transport Policy Program Policy paper, Technical Assistance in Ghana, etc.

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Delegation from Switzerland

Delegation from Switzerland

Transitec Consulting Engineers Ltd.

Swiss made Urban Mobility Consulting: Founded in 1954, Transitec is the first urban mobility engineering and consulting company in Switzerland, with subsidiaries in France, Belgium, Portugal and Morocco. Proudly independent and owned by its staff, Transitec covers all dimensions of urban mobility: policy, planning, management, governance, capacity building, research, etc. With a permanent staff of about 100 professionals, Transitec is active internationally (over half of its activity), with references in over 30 countries on all continents, both in developed and emerging economies.

Presentation

Over the last ten years, Transitec was strongly involved in the improvement of urban transport in the Kingdom of Morocco, supporting both the central and local governments, at all levels spanning from national policy and financing to local planning and implementation (Light Rail Transit, Bus Rapid Transit, traffic management, etc.). The story of this last decade, with its ups and downs, with the lessons learnt and the way forward will be presented by Martin Stucki, CEO Transitec.



DR. THORSTEN KLAAS-WISSING

Dr. Thorsten Klaas-Wissing, Vice Director Chair of Logistics Management, University of St. Gallen (LOG-HSG), Head of Logistics Services and Transportation Research. Born 1967, vocational education as industrial clerk, studies in Business Administration with majors in Strategic Management, Logistics, Operations Management and Economic Geography at the University of Cologne (GER). From 1996 to 2002 PhD student, research and teaching assistant at the Department of

Management and Logistics of the University of Cologne. Winner of the German Logistics Science Award 2003 with doctoral thesis "Logistics-Organization". From 2002 to 2005 consultant, senior consultant and freelance consultant at Droege & Comp. GmbH, Düsseldorf, Simon-Kucher & Partners, Bonn and Dr. Klaas Logistics-Consulting, Cologne. Since 2006 project manager, Head of Logistics Services and Transportation Research, and by 2009 Vice Director of the LOG-HSG.

Chair of Logistics Management, University of St. Gallen (LOG-HSG)

LOG-HSG is an international dialogue platform for science and practice in the areas of supply chain management, purchasing and transportation. By conducting research on complex problems of global value creation networks LOG-HSG develops concepts, methods and applicable instruments. Thereby, it provides direct knowledge transfer of its cutting-edge research and applied solutions to executive education and professional events. With its vast portfolio of activities LOG-HSG contributes to the further development of logistics management in industry, trade, services and the public sector. This is also done by encouraging research and knowledge transfer within an international network of renowned universities and research institutes. By this, LOG-HSG is a professional starting and return point for the lifelong learning of students and executives alike.

Presentation

High value traffic systems are a prerequisite for social welfare, economic prosperity and political stability. The mobility demand of persons and goods is increasing continuously and the modes of transport reach their limit of capacity at peak hours. Each mode of transport has its own advantages, which could complement each other perfectly. Implementation of this knowledge however is still not a core competence of current transport policy. The challenges are worth considering and all those engaged in the area of transport policy are requested to contribute their input from their particular perspective. The study "Vision Mobility Switzerland 2050" is such a contribution outlining a mobility vision for Switzerland in the year 2050, based on a value system of "good" mobility and possible upcoming development trends.



SHIRISH SINHA, MODERATOR

Shirish Sinha is the Deputy Director of Cooperation, Swiss Agency for Development and Cooperation (SDC) in India. Shirish has worked more than twenty years in the development of policy making and project implementation in the field of rural energy, renewable energy, climate resilient development, energy and climate policy. Prior to joining SDC, he was Head — Climate & Energy Programme of WWF India, Principal Consultant with PricewaterhouseCoopers (PwC) India, Principal

Researcher (Water — Energy) with International Water Management Institute (IWMI) and Research Associate with the Energy and Resources Institute (TERI). In 2012, Shirish Sinha published his book "In Pursuit of a Light Bulb and a Smokeless Kitchen", which is a longitudinal analysis on role of energy sector policies to alleviate rural energy poverty in India. He coauthored six books and co-edited ten publications in the field of energy, renewable energy and climate change adaptation. Shirish Sinha holds a PhD in Public Policy (Energy Poverty) from the University of Twente, the Netherlands and Masters in Rural Management from the Institute of Rural Management, Anand (IRMA) in India.

ROUNDTABLE DISCUSSION

Switzerland has been able to implement some smart urban mobility and transport solutions. The distinguished Swiss and Indian speakers will discuss challenges and opportunities for a more sustainable future of mobility in India, sharing lessons and explore how Swiss innovations in urban mobility can be put into practice in the Indian context. While it is understood that these solutions may not be replicated in the Indian context, can India learn from Swiss experiences and can some of these innovations be adapted to meet the growing requirements of the cities in India?

6 7



Switzerland's performance in the fields of science, research and innovation is excellent: The country ranks 1st in the World Economic Forum (WEF) Global Competitive Index 2016 as well as 1st in the Global Innovation Index 2016 and is among the countries with the highest expenditure on research and development (R&D) in relation to its gross domestic product (GDP). In addition, it is the country with the most Nobel Prize winners per capita.

The Embassy of Switzerland and its official representations in India therefore launched the public events initiative *Year of Swiss Innovation in India 2015-16*. The landing of Solar Impulse in Ahmedabad and Varanasi in March 2015 provided a unique opportunity for the start of this campaign. As an idea born in Switzerland, this solar airplane project embodies many of the features that characterize Switzerland as an innovation powerhouse — pioneering spirit, entrepreneurship, excellence in research and development, highly educated and well trained people and a fine-tuned collaboration between the private and the public sector.

Since March 2015 symposia, workshops and travelling exhibitions on topics such as renewable energy, green buildings, robotics, intellectual property rights, gaming, digital innovation, design and artistic performances based strongly in science and innovation were organized. The Indian audience had the possibility to experience exciting activities such as flying a bird simulator or witnessing an innovative dance performance first-hand in major cities all over India.

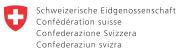
The Year of Swiss Innovation in India 2015-16 is however not only a vitrine of Switzerland's existing achievements in these sectors. The main aim is to strengthen further business collaboration and investments between India and Switzerland as well as to facilitate academic exchange, the sharing of best practices and know-how. Just as the innovation process itself, the program is very much driven by private initiatives and the involvement of entrepreneurs, researchers and experts from India and Switzerland.

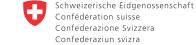
The Swiss session *Smart mobility – Swiss innovations* on November 10th is part of the closing celebrations of this initiative bringing renowned Swiss mobility experts to India. The presentations and discussions at the Urban Mobility India Conference 2016 aim to share lessons and explore how Swiss innovations in urban mobility can be put into practice in the Indian context.

For more information please visit our homepage: http://www.swissnexindia.org/about/yosi/

Dr. Andreas Baum Ambassador of Switzerland to India

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