Manually securing cargo ships in locks with steel mooring lines is time consuming, labour intensive and potentially dangerous if a cable breaks. The St. Lawrence Seaway Management Corporation (SLSMC) in concert with its supplier, Cavotec, developed the first ever hands-free mooring solution for locks.

The SLSMC operates the Canadian sections of the St. Lawrence Seaway, a waterway that has 16 high-lift locks, 14 within the Canadian portion and two within the US portion. Transiting each lock traditionally requires using heavy steel mooring lines to tie up a ship to a series of bollards on the lock wall.

The SLSMC, together with its supplier Cavotec, developed an innovative solution to modernise lock transits. The Hands-Free Mooring (HFM) system employs vacuum pads mounted on vertical rails to secure the vessel during the lockage process, tracking the vessel as it is raised or lowered, while keeping it at a fixed distance from the lock wall.

"Sometimes innovation is taking an application from one field and applying it in a completely different context” pointed out Jim Athanasiou, General Manager-Business Improvement for the St. Lawrence Seaway Management Corporation. The innovative application of the HFM system has led to concomitant innovations in vessel guidance into the locks and novel construction techniques to rapidly install the HFM system without disrupting services.

Quotes:

“The key to innovation is people”

“To drive innovation, you need room to breathe”

Hans Arby, CEO, UbiGo

UbiGo is a fully integrated mobility service for everyday travel. It aims to make everyday life easier for urban households and foster sustainable cities by offering a simple, flexible, reliable and affordable service as an alternative to car ownership. The service works like a flexible mobile phone subscription but for the use of mobility services rather than for data or calls. UbiGo combines public transport, car-sharing, rental car service, taxi and a bicycle
system – all in one smartphone app, all on one invoice, with support and incentives for sustainable transport choices. UbiGo leverages its procurement power to purchase services in volume, repackage and then deliver these in combined packages to subscribers. In this respect, UbiGo’s business model mimics other recent innovative service delivery platforms like Spotify’s for music.

The UbiGo service has been developed and tested in Gothenburg, Sweden’s second largest city. For half a year, 70 paying households used UbiGo. During the Living Lab period, over 12,000 transactions (day tickets, car or taxi reservations etc.) were made. The evaluation - based on surveys, interviews, travel diaries, focus groups and usage - was positive. None of the participating households stopped using the service and a clear majority wants to stay on as customers, their main reason being convenience. In terms of suppliers, however, UbiGo has faced difficulties negotiating reselling rights from public transport operators and this situation, left unchanged, will hobble efforts to move towards the more comprehensive roll-out of mobility as a service.

The business model is scalable and franchiseable. The test run not only targeted households, but businesses as well. “A service like UbiGo acts as ‘grease’ between the ambitions of large cities to limit the use of car and the need of households and companies to manage everyday life,” said Hans Arby, CEO of UbiGo. “UbiGo works it focusses on providing a better service than private car ownership can offer, not on convincing people cars are bad.”

Quotes:

“To change behaviors, you may use carrots and sticks but also grease to make it easier for the people to do the right thing”

“we need to repackage public transport”

“UbiGo is the ‘Spotify’ of mobility services”

Sarah Hunter, Head of Public Policy, Google [x]

Transport provides freedom, quality of life and opportunities and this explains the popularity and enduring attraction of cars. However, our relationship with cars is not without costs and environmental impacts. A car-focused lifestyle also results in significant and unacceptable loss of life and crippling injuries. Faced with this dual challenge, Google, as a technology company has been keen to see what scope there is for reducing environmental impacts and improving safety outcomes via the application of cutting edge technology.

Google’s approach has not been to minimise the potential for drivers to commit errors but rather to remove this possibility completely by obviating the need for drivers in a new
The development of the Google self-driving car has focused on prototyping models developed with established automotive OEM companies and then intensely testing these in real-world conditions.

Various models of these vehicles have been in operation for years and have been collecting valuable data. These tests have, and continue to, reinforce the proof of concept from a technical standpoint. Perhaps as important have been the changes that these vehicles portend for making life easier and more convenient for people. The receptiveness of people that have experienced these self-driving vehicles has been extremely positive and underscores the potential for these to offer freedom and improved quality of life. These tests show that the self-driving technology has the potential to be transformative – just as certain other technologies being trialled by Google [x], including unmanned automated flying vehicles for urban goods delivery.

Quotes:

“The Hollywood version of automation is not the truth”

“Self-driving car can offer freedom and quality that we have never thought before”

“We are not cannibalising exiting car markets but creating new ones”

“we don’t believe self-driving cars will be the only mobility solution on the road”

Philippe Crist, Administrator and Economist, International Transport Forum of the OECD

The ITF recently undertook a study examining the changes that might result from the large-scale uptake of a shared and self-driving fleet of vehicles in a mid-sized European city. The study explores two different self-driving vehicle concepts; “TaxiBots” that are self-driving cars that can be shared simultaneously by several passengers and “AutoVots” that pick-up and drop-off single passengers or parties sequentially. The ITF’s work found that the Taxibot system, in combination with high-capacity public transport, can provide nearly the same mobility as today with 90% fewer cars on average and 70% fewer cars than today at peak hours. This would have important implications the reallocation of urban space.

A key finding of the study is that the type of services explored would directly compete with taxi and public transport services – two highly regulated industries that may be at a loss to adapt under current regulatory frameworks. Though there is no reason that public transport or taxi operators could not operate the types of systems modelled, current legislation in most cases would prevent these actors from entering this market.
Hans Arby is Chief Executive Officer of UbiGo, a subscription service providing everyday transport for households in Sweden, allowing them mobility without the need for a car. The service combines public transport, car-sharing, rental car service, taxi and a bicycle system.

Jim Athanasiou is General Manager - Business Improvement at The St. Lawrence Seaway Management Corporation (SLSMC). The SLSMC is responsible for operating and maintaining the water navigation infrastructure leading into the North American Great Lakes. Jim Athanasiou is responsible for identifying innovation and technologies that can be implemented to improve efficiencies across the business. Modernisation of the seaway locks, through the use of vacuum technology and remote operations, is under his leadership. Prior to joining the SLSMC, Athanasiou worked in the pulp and paper industry, and holds a Master's Degree in Business Administration.
Sarah Hunter has been Head of Public Policy at Google [x] since August 2013. Google [x] is a team of inventors and engineers that applies audacious thinking and technology to big problems for positive social change. Hunter works closely with all of Google [x] product teams, from self-driving cars to life sciences to Unmanned Aerial Vehicles (UAVs) and balloon-powered internet (Project Loon). Prior to joining Google [x], she ran the Public Policy team for Google in the UK for four years. Before joining Google, Hunter worked as an advisor to the then UK Prime Minister Tony Blair on Media, Arts and Sport policy from 2001 to 2005. She has also worked as a media policy expert for a number of UK broadcasting companies, including the BBC (British Broadcasting Corporation).

Philippe Crist is an Economist and Administrator at the International Transport Forum (ITF) at the Organisation for Economic Co-operation and Development (OECD). Crist is responsible for coordinating several international research initiatives amongst ITF members. Current projects focus on improving cycling safety, assessing GHG emission strategies in the transport sector, as well as investigating national transport asset and network management strategies. He serves on the advisory boards for several transport, climate change and urban policy research programmes.

Marc Juhel became the World Bank's Sector Manager of Transport in the Bank’s Transport, Water and Information and Communication Technologies Department. His specific areas of expertise are the development planning of port facilities, the economic, financial and institutional aspects of transport systems administration and management, and the integration of national logistics functions within the international transport system, focusing in particular on transport and trade facilitation issues. While providing operational support to transport projects undertaken with World Bank financing, his duties entail a close follow-up on the managerial and technical developments in the transport industry, as well as in the field of supply chain management and related logistic activities.