



## National Research Council Canada

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# International collaboration opens doors to Canadian smart health innovations

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EUREKA is an intergovernmental network based in Europe that promotes and supports collaborative market-oriented global R&D and innovation. It facilitates access to financing for participants in over 40 economies. Canada, through its national office based at the National Research Council of Canada, became an associate member in 2012.

As the race for innovation becomes more complex, international collaboration grows ever more essential for Canadian businesses. Take, for example, the emerging sector of smart health innovation. **Norima Consulting**, a Winnipeg-based information technology strategy, services and products firm, is one of the key players in an international, open innovation-style collaboration project under the EUREKA network cluster programme ITEA 3.

Thanks to support from the National Research Council of Canada **Industrial Research Assistance Program** (NRC IRAP), Norima is participating in Medolution, an international R&D project consortium aimed at developing smart health solutions for populations with chronic and complex health conditions.

Medolution aims to create smart environments that integrate health data, leading to relevant information that supports patients and healthcare professionals in their decision-making on diagnosis, treatment and further long-term monitoring, in particular in such areas as artificial heart, stroke, supportive home environment and ambulance.



The Norima Consulting management team (Benny Wong, Susan Goldie, David Kuik, Maciek Hunek) takes up the smart health open innovation challenge with the international Medolution ITEA 3 cluster project.



Norima Consulting's HANA™ device integrates user data to create health information that can be used to improve patient care.

Led by Philips Healthcare, a Dutch health solutions multinational corporation, Medolution brings together 19 participants from 5 different countries, through the ITEA 3 cluster process, where large enterprises, small and medium-sized enterprises (SMEs), universities, and other players collaborate on industry-driven, pre-competitive R&D in software innovation. Building on the ITEA 3 open innovation framework, each player benefits from the chance to accelerate its R&D while being responsible for commercializing its own technology, and as a general rule gets full ownership of the intellectual property (IP) it generates and can license the technologies developed by the others.

"Joining Medolution was a real win for us," said David Kuik, CEO of Norima Consulting. "It offers terrific market visibility and validation for the company's expertise. It's a key part of our strategic plan to become an IP-generating consulting firm with a truly international outlook."

Norima is leading the development of three major innovations as part of its contribution to the consortium. The first one, HANA<sup>™</sup>, is a cloud-based environmental control and accessibility platform that empowers individuals who have severe mobility challenges to control their personal environment from their bed or wheelchair while providing remote monitoring capabilities for caregivers and care providers. The second innovation, named SmartSpeed<sup>™</sup>, also enhances quality of life and enables multidisciplinary healthcare teams to conduct video consultations and coordinated post-assessment work at a distance. Its third contribution to the project is state-of-the-art data anonymization software which will allow health care administrators and researchers to study aggregate sets of health data while ensuring individual privacy. This last innovation is essential to the success of the Medolution project as a whole – providing a core privacy solution for use in many of the products now being developed by the Medolution partners.

### NRC IRAP helps Norima expansion into product innovation

Kuik first began operating his business out of his basement in 2006. He and his partners quickly grew a successful technology consulting firm in the financial services, insurance, and healthcare sectors, with clients in both Canada and the United States.

In 2011, building on the steady growth of the company Kuik began a series of small NRC IRAP projects to hire staff and develop the company's own R&D capabilities. "It's not easy for a professional services company to include product-development capability," said Kuik. "NRC IRAP helped us lay the foundation."

With NRC IRAP advice and support, in 2013 Norima Consulting began to look for opportunities to broaden its international reach, just as NRC IRAP was scoping out ITEA 3. This opened new potential for the company to explore research partnerships under international collaborative funding arrangements, which turned out to be a perfect fit. After ITEA 3 Project Outline Days in Amsterdam in 2014, where the Medolution project idea was discussed with other potential European partners, Kuik and Patrick Sheedy, the company's NRC IRAP Industrial Technology Advisor (ITA), worked closely to turn this unique opportunity into reality.



The ITEA 3 Medolution project offers a great opportunity for Norima Innovation Division to showcase their expertise and develop a 'big-picture' viewpoint on smart health innovation.

"The Medolution project will run until May 2019, yet these early wins for Norima are not surprising – ongoing deliverables were built into the project up front," said Sheedy. "ITEA 3 has a 30+ year track record in multinational open innovation. The NRC IRAP and ITEA 3 partnership is one of the most powerful mechanisms available to support strong, ambitious Canadian SMEs to step up their game."

Sheedy helped Norima navigate the complexities of finding government support for Norima's participation in the ITEA 3 project, while the consortium partners sought funding from their own national sources. To mitigate risk and make use of the one-year delay before the Medolution research work began, Sheedy helped Norima build an NRC IRAP project to kick-start R&D for its role within the coming Medolution project. This support also helped Norima hire software developers and commercialization experts to accelerate growth of the company's new Innovation Division.

"Medolution provides an open innovation-style collaborative framework for partners to work jointly on technology development, creating valuable synergies and knowledge-sharing to bring new products to market more quickly," explained Kuik. "The atmosphere within Medolution is amazingly collegial. It's been a terrific way to build our team – with exposure to really big-picture thinkers."

Norima's current ITA, Travis Takeuchi, continues to support Norima as it prepares to demonstrate the effectiveness of its products in pilot situations and to establish markets for its Medolution-based technologies.

"Our ITAs have worked hard to really know us, and identified where we might have difficulties in such a complex venture," said Kuik. "They have a great sense of what is likely to work."

"A lot of our work with the company at this point is strategic," said Takeuchi. "We've been doing the high-level work needed to connect the company to health care authorities that can become first-buyers of these advanced products. Canada's health care system is complex, with many levels and players, so this is not a simple task."

"This is the way of the future – to tackle big challenging problems through innovative R&D collaboration with many different players around the world."

David Kuik, CEO, Norima Consulting

### Norima reaches for the horizon through collaboration

Doors continue to open for Norima Consulting at home and abroad. The company's Innovation Division has grown to 12 employees and the unit expects to reach \$3 million in revenue in 2019, thus being a valuable addition to the consulting side of the business.

Norima is currently making arrangements to pilot its technologies in several assisted living facilities in Canada. The firm also recently signed a deal with Medic.Life of Utah to use Norima's data anonymization technology, developed through Medolution, to safeguard data collected through Medic.Life's smart toilets that can monitor a patient's health condition.

Kuik's enthusiasm for EUREKA and the open innovation-style model of Medolution is contagious. Now on the board of the Kids Brain Health Network, a Network of Centres of Excellence, Kuik is frequently asked to share his experience with Medolution.

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