

Case study

# Over ten years of successful collaboration with 100+ patent filings

Nokia is a long-standing Iprova customer across multiple invention areas including smartphone services, privacy, security and IoT.

## NOKIA

Our collaboration has resulted in over 100 patent filings with some of the granted patents already being heavily cited by companies such as Amazon, Apple, Google, IBM and Microsoft.

### Our collaboration

Nokia was one of Iprova's first customers and the two companies continue to work together today.

Intrigued by Iprova's technology and our unique, data-driven invention approach, Nokia embarked on its first project with Iprova back in 2011 – helping to pioneer the use of AI in the invention process.

Since then, we have worked together on many projects. These typically involve working with Nokia's R&D and Intellectual Property groups across Europe and the US.

### Results

- ↳ Fast access to disruptive inventions for smartphone services, privacy, security and IoT.
- ↳ Delivery of over 100 patent filings.
- ↳ Granted patents cited by Amazon, Apple, Google, IBM and Microsoft.



Example invention

## Privacy and security for mobile communications

In a world of ubiquitous connectivity and monitoring, maintaining personal privacy while still enabling the benefits of these technologies is an increasingly difficult challenge.

Nokia's objective was to introduce services which would leverage the capabilities of smartphones in novel ways to deliver enhanced privacy and security for users. The Nokia team engaged with us to work on this particular project as they wanted to expand the remit of their own in-house research team by adding external capacity.

In the initial kick-off meeting, we jointly agreed on the invention area, allowing Iprova to configure the project parameters for its software. Using its 'Invention Studio', its data-driven invention platform, Iprova's team of invention developers was able to scan through huge amounts of information in real-time to find relevant advances in even the most distant domains.

Two weeks after the start of the project Iprova presented Nokia with the first examples of ultimately many inventions that offered users new ways in which they could use their mobile devices to provide novel privacy and security solutions.

The Nokia team received a presentation of these 'invention opportunities' which comprised the invention triggers found by Iprova's software, a proposed invention together with a possible reduction to practice, and the invention developers view of its commercial and technological significance. The Nokia team then chose which invention opportunities to accept based on their evaluation of the value of the inventions.

In total, Iprova created **34 inventions**. Ten of these were subject to patent filings by Nokia, of which many are now granted.

*Using Iprova means we have access to additional forward-looking inventions at key points of industry convergence helping us to maintain a commercially relevant patent portfolio.*

— **Harri Honkasalo**  
Head of Patenting, Nokia



Example invention

## Privacy profile adaptation based on physiological state change

One of the inventions for this project focused on how a user's privacy policies could be automatically adjusted in response to detected physiological state.

This invention was driven by a number of separate advances including that smartphone users with strong privacy settings are often unable to access useful services at times of stress when they need these services the most. In a stressful situation, manually adjusting privacy profiles can be very frustrating. As a result, users may opt for lower privacy settings all the time in order to avoid such situations.

Iprova created an invention which provides for the automatic adaption of privacy policies according to a user's detected physiological parameters (such as stress indicators) where this will benefit the user in their current situation.

Consider the use case of a hiker who is lost. The hiker may have a map installed on their mobile phone, but their privacy policy may be set such that the map does not indicate their present location information. Their mobile phone may detect that as they approach a hiking path intersection, their heart rate and breathing rate indicate increased stress. Their mobile phone may then automatically adjust their privacy settings to allow them to see their position on the map. The system can even poll their friends or social network for suggestions as to landmarks or directions enabling a smoother, less stressful, hiking experience.

The invention resulted in a granted patent (US9946893), and has been cited by a range of companies including Google and Ford.

## ↳ About Iprova

Iprova uses artificial intelligence technology to help make the connections which result in disruptive, commercially relevant inventions. This occurs in real-time, based on day-to-day social, market and technology advances around the world. As a result, the company is able to invent with unprecedented speed and level of disruption.

Iprova has created inventions that have been the subject of hundreds of patent filings by some of the world's best-known technology-based companies. Iprova's customers are active in many areas including autonomous vehicles, 5G, healthcare, energy and mobile devices.

All 10 of the world's largest technology companies including Apple, Amazon and Google reference granted patents based on Iprova inventions in their own publications.