

2018

IMAGINE THE FUTURE



IMAGINE THE FUTURE 2018

MINALOGIC, A NEW DIMENSION

By 2018 Minalogic will become the premier network for smart systems integration

The Minalogic competitive cluster has mapped out a six-year development plan. Under the plan, the cluster will pursue its growth strategy and, most importantly, create new opportunities to enhance its members' growth and competitiveness. The plan is underpinned by the 2013–2018 Performance Contract recently signed with the French government. The contract, which Minalogic's Board of Directors, committees, and coordination team helped to draft, outlines the cluster's key objectives for the next six years. Most notably, Minalogic will combine Key Enabling Technologies in the fields of micro- and nanoelectronics, nanotechnology, and photonics with software technologies to consolidate Grenoble's—and the entire Rhône-Alpes region's—position as a pillar of the EU's industrial policy. The strategy will position Minalogic to play a crucial role as a global center for the development of smart, communicating miniaturized systems capable of responding to society's major challenges.

Growth, Competitiveness, Jobs

MINALOGIC'S PROVEN "PROJECT FACTORY" MODEL

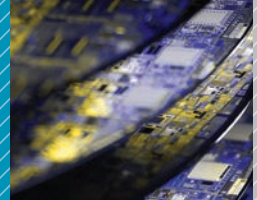
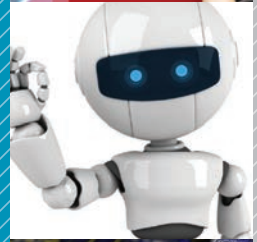
Minalogic earned the French government's competitive cluster certification in 2005. Since then, the cluster has spearheaded groundbreaking partnership-building efforts bringing together research laboratories and manufacturers around collaborative R&D projects. And the model works! A total of 234 projects representing R&D spending of nearly €1.8 billion have been Minalogic-certified and have qualified for funding, including €692 million in public backing from agencies like the French Single Interministerial Fund, the French National Research Agency, and public investment bank BPIFrance (formerly Oséo), as well as national, regional, and local governments.

MAKING THE TRANSITION FROM PROJECT FACTORY TO PRODUCT FACTORY

Minalogic's project-coordination efforts—crucial to maintaining the state of the art in embedded software and systems—will, of course, continue. However, business development will now be a top priority at the cluster, with the goal of getting the innovations that come out of Minalogic projects to market. This business development strategy will focus on meeting the needs of real-world applications—effectively transitioning Minalogic from project factory to product factory. And efforts are already underway: the first 43 collaborative R&D projects to be completed have resulted in 148 patents filed, 564 jobs created, and nearly €2 billion in revenue forecasted for the first five years post-project.

BUILDING BRIDGES WITH THE SOFTWARE INDUSTRY

The software industry will be a pillar of Minalogic's new six-year plan. Without software, the smart solutions developed at the cluster simply cannot be rolled out effectively in today's ultra-connected world. The cluster is well-positioned to further expand the ecosystem it has contributed to building and is confident in its members' and partners' commitment and capacity to imagine—and shape—tomorrow's world.





KEY ENABLING TECHNOLOGIES TO UNLOCK THE DOOR TO SOCIETY'S MAJOR CHALLENGES

Minalogic is particularly advanced in three of the six Key Enabling Technologies identified by the European Commission: nanotechnology, micro- and nanoelectronics, and photonics. Key Enabling Technologies boast an unrivalled capacity to fuel advancements in a broad range of industries.

These technologies, when integrated into innovative new products and services, represent a prime opportunity to respond effectively to society's major challenges.



A look at Europe

- in 2050:
- Population aged 65 and over: +70%
- Population over 80: +170%



HEALTHCARE

Industrialized nations are faced with an aging population, creating formidable public health challenges like skyrocketing demand for healthcare services and spiraling healthcare costs.

The following trends in healthcare will help respond to these challenges:

- E-healthcare: In the future, patients will, to the extent possible, be monitored remotely rather than being admitted to a hospital. Data processing, communication systems, and components like sensors, imagers, and gyroscopes will be combined to provide new e-healthcare products and services.
- Preventive care will play a larger role, with innovative new diagnostic systems designed to better take into account individual patient needs.
- Other trends will include new drug-delivery systems, the rise of augmented surgery, and enhanced medical imaging capabilities.

ENERGY AND THE ENVIRONMENT

Minalogic technologies will also contribute to reducing the consumption of fossil-fuel-based energy, curbing greenhouse gas emissions, and producing and storing energy from renewable sources, through:

- New, more energy-efficient, easier-to-recycle electronic components.
- Greater energy efficiency through smart grid technologies like smart electricity.
- More energy-efficient data centers.

In France, electricity prices are expected to rise by 50% by 2020

MOBILITY, CONNECTIVITY, AND THE DIGITAL SOCIETY

Sectors like energy, healthcare, transportation, and government are all going digital. This trend, combined with the emergence of smart, communicating objects, has created a new need: anytime, anywhere connectivity for all. And a new problem to solve: how to deal with the massive amounts of data—so-called “big data”—generated by these new applications. Future developments will focus on:

- Convergence between different platforms.
- Mobile applications for all devices, from smartphone and tablet to netbook.
- Powerful, energy-efficient computation.

Minalogic and its members and partners are already active in all of these fields and intend to pursue their efforts—including increasing R&D funding.

In 2015 the world will count six cities with populations in excess of 10 million

MINALOGIC: HISTORY

2005

July

Minalogic is granted French government global competitive cluster certification

November

Minalogic Partenaires, a non-profit organization, is founded

2006

February

1st call for projects of the French Single Interministerial Fund 14 projects certified by Minalogic

2007

September

Minalogic welcomes its 100th member

2008

June

SMB club created

STAYING AT THE CUTTING EDGE OF TECHNOLOGY

In the coming years, the only way to keep our technological advancements from being manufactured in low-cost countries is to stay at the cutting edge. Minalogic has carved out a position of leadership in smart embedded software and systems.

MICRO- AND NANOELECTRONICS AND EMBEDDED SYSTEMS

The microelectronics industry is on the verge of never-before-seen breakthroughs in miniaturization, power, and energy-efficiency. Minalogic is at the state of the art in all of these areas and will maintain this crucial advantage by:

- Fuelling collaborative R&D projects involving public research labs with the goal of overcoming new technological hurdles.
- Setting up groundbreaking partnerships involving major corporations and SMBs to broaden the field of potential applications for new technologies and innovate across industries.
- Strengthening ties with the new IRT Nanoelec research institute.
- Getting involved in international programs like Silicon Europe, the European alliance of microelectronics clusters.
- Ensuring appropriate production capacity and sufficient investment in design, testing, and manufacturing infrastructure.
- Attracting investment and creating the necessary specialized-services ecosystem to support new investments.



**Developing
comprehensive
innovative solutions**

**SYSTEMS-PLUS-SOFTWARE
FOR NEW APPLICATIONS**

Minalogic will also maintain its technological lead by developing comprehensive innovative solutions that include smart miniaturized systems, software, and the communication technologies required to implement these types of solutions. Minalogic’s membership covers the entire digital-industry value chain—a major advantage in the transition from project factory to product factory.

**Minalogic covers
two strategic fields, each with five major segments**

MICRO- AND NANOTECHNOLOGY	SOFTWARE
More Moore (MOS)	Embedded software and systems
More than Moore (MEMS, large surface)	Tools, methods, modelling, and simulation
Sensors, microsystems, and imagers	Signal processing, natural and artificial cognition, HMI (human-machine interfaces)
Photonics and displays	Data processing and virtualization
Equipment and production	Safety, security, and reliability

**MINALOGIC:
HISTORY**

2008
September
2.0 phase of the French government’s cluster policy rolled out in Grenoble

2009
November
Project support committee for SMBs established

2010
March
Grenoble ramps up nanoelectronics cooperation with Dresden

2011
May
IRT Nanoelec research institute certified by French government

October
Minalogic membership exceeds 200



PROMOTING OUR INNOVATIONS FOR INTEGRATION INTO NEW APPLICATIONS

The technologies and applications developed at Minalogic have an extraordinary capacity to be used in an extremely broad range of industries. While key sectors like healthcare, transportation, and energy have been clearly identified for their potential in terms of new applications, other, more traditional industries like textiles and plastics could also integrate Minalogic-developed technologies—boosting competitiveness and growth and creating new jobs.

PROVIDING BUSINESSES WITH GREATER SUPPORT

Minalogic's new strategy will address businesses that already integrate smart miniaturized systems into their products as well as those that could accelerate their growth by integrating these systems. To make sure that this happens, Minalogic plans to provide these businesses with an enhanced range of support services in partnership with economic development agencies with the goal of:

- **Accelerating growth for SMBs by:**
 - Facilitating fast, efficient technology transfer (the *Easytech* program).
 - Supporting the growth of software companies (the *Ambition Logicielle* program).
 - Pursuing efforts to build relationships between large corporations and SMBs (the *Pacte PME* program).
 - Encouraging discussion of economic benefits early in the project planning phase, with careful monitoring throughout the project with a view to broadening the potential benefits.

- **Supporting international development by:**
 - Facilitating international inter-cluster initiatives.
 - Supporting businesses in their export strategies.
 - Raising the Grenoble ecosystem's profile internationally.
- **Helping businesses reach maturity by:**
 - Providing highly qualified financing leads (banks, venture capital, or public investment bank BPIFrance).
 - Continuing to run innovation and entrepreneurship training programs.
 - Ensuring access to know-how from institutions of higher learning and other training providers to meet the needs of businesses.

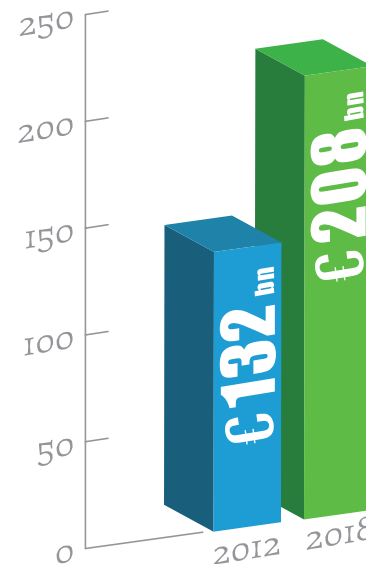
Getting innovations to market faster

PLAYING AS A TEAM

- Work with other France-based clusters whose members include businesses likely to integrate Minalogic-developed smart systems into their products. These include Aerospace Valley, Imaginove, Lyonbiopôle, Systematic Paris-Region, Techtera, SCS, Optitec, Tenerrdis, Cluster EDIT, and Plastipolis, for example.
- Set up and coordinate innovation networking centers to promote relationship-building and the emergence of open innovation that cuts across multiple industries.
- Leverage the research facilities created and funded under the French government's economic stimulus package.
- Partner with government agencies to carry out life-sized demonstrations at the city, district, and regional scales.

These initiatives will ensure that the innovations coming out of Minalogic reach the market in the timeliest possible manner.

Five high-growth target markets
ENERGY Energy efficiency
HEALTHCARE Medical systems
TRANSPORTATION Command and control
TELECOMMUNICATIONS and MOBILITY Communicating objects
DIGITAL IMAGING



All of the priority markets targeted by the components and software developed by Minalogic—energy, energy-efficient buildings, medical systems, transportation, connectivity and mobility, and digital imaging—are expected to grow rapidly over the next five years.

2012

March

The number of Minalogic projects to secure financing passes the 200 mark

September

The Easytech program for SMBs kicks off to facilitate technology transfer to industry

October

Minalogic obtains the European Cluster Management Excellence GOLD label

October

Silicon Europe, Europe's first inter-cluster network for microelectronics, is launched

OBJECTIVE 2018:

MAKE MINALOGIC
A GLOBAL CENTER
FOR EXCELLENCE
IN SMART SYSTEMS

AN AMBITIOUS GOAL

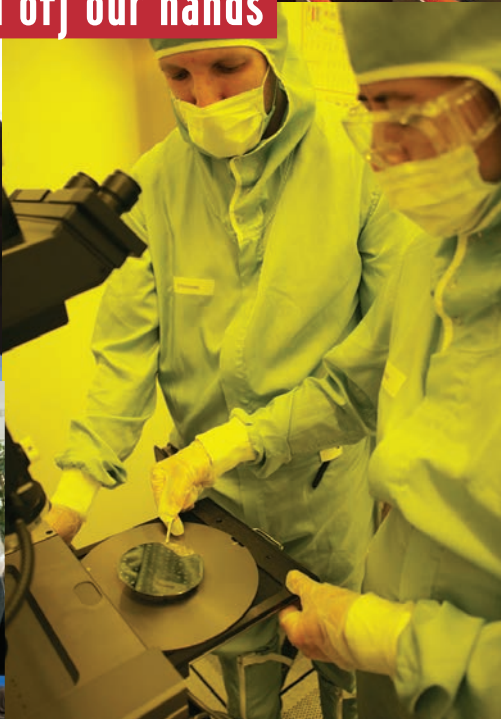


- Of the cluster's 300 members, 80% are SMBs.
- 45% of Minalogic members are software companies, for a healthy systems/software balance; software members are benefitting from high growth as a result of the cluster's activities.
- 3 new international integrators have joined Minalogic and are proving to be very active members.
- 2 SMBs, both of which have crossed the 250-employee milestone, are now particularly competitive thanks to their unique technologies.
- 250 companies have benefited from the Easytech and *Ambition Logicielle* software programs since 2012. Of these, 75% have increased their market share, and with it their top line, with revenue growth of at least 25%. The programs' simplicity, affordability, and rapid results have earned kudos from participating businesses.
- The *Métropolis, agglomération du futur* program on technologies for tomorrow's cities has been extremely well received by residents of test neighborhoods equipped with smart applications for energy, assisted living, and transportation.
- Minalogic is today at the hub of a vast network that includes the main international clusters—this has raised Minalogic members' profiles internationally, as evidenced by their growing export sales.
- Minalogic's coordination team is constantly thinking up new programs and events to further expand members' networking opportunities.





The future is in (all of) our hands



Minalogic's vision of the future:
dream or reality?

At Minalogic, we believe
that by working together to
implement our strategy—a
strategy developed jointly by all
of our stakeholders—our vision
of the future will come true.



Minalogic partners: Wiring - Françoise Laurent - Graphic design: Gilles Esparbet - Photos: Architecture Minalogic, Enolia, Evren, Microval, Schmaeder Electric, Impecta, Folias, STMicroelectronics, Grenoble IHP



www.minalogic.org



Competitive clusters –and, most importantly, their members– are at the dawn of a new era. The shift from project factory to product factory is happening now, with a move from R&D to industrialization and, ultimately, the manufacturers competitive and fuel their growth.

2018

If all stakeholders work together, Minalogic's new six-year plan has the capacity not only to maintain the cluster's leadership in the crucial technologies it develops, but also to ensure the widespread rollout of smart miniaturized systems across a broad range of markets.

