



Consortium of Industry Leaders launches the “S3P” Major Collaborative Project and Alliance

**S3P Project aims at developing a Smart, Safe and Secure
Software Development and Execution Platform
for the “Internet of Things”**

PARIS, France — December 8th, 2015—

Esterel Technologies (Consortium Leader, wholly owned affiliate of ANSYS),

and **Technology Platform Partners**: CEA Tech, Krono Safe, MicroEJ, Prismtech, Prove & Run, SYSGO, Telecom ParisTech and TrustInSoft,

and **Industrial Users Partners**: Airbus, Alstom, Altran Connected Solutions (World Class Center of Altran), Axa France, Continental, Eolane, NXP Semiconductors, Sagem, Schneider Electric, Sorin, STMicroelectronics, SurTec and Thales.

Together are creating the S3P Consortium to develop an IoT Software Development and Execution Platform, S3 Platform.

The S3P Platform aims at enabling the rapid development and exploitation of **IoT-capable devices and applications**, combining unprecedented safety, security, agility and portability.

The **S3P Consortium** also creates with the support of the Embedded France Association, the Cap’tronic Association and the Eclipse Foundation the **S3P Alliance** ecosystem to foster the wider national and international deployment of its initiative with the aim at further expanding its usage by other leading consumer and industrial brands.

The development of the **S3 Platform** is supported by the **S3P Project**, a 45 M€ investment

project, that is financially supported by the S3P Consortium members and by the French Government “Nouvelle France Industrielle” initiative with a 18.3 M€ government funding, under the “Programme d’Investissements d’Avenir”.

“ The creation of S3 Platform, Project and Alliance is a key contribution to building a smart, safe and secure software development and execution platform for the worldwide deployment of IoT”, said **Eric BANTEGNIE**, CEO of Esterel Technologies and Vice President of ANSYS, Inc., “it also contributes directly to the objectives of building a comprehensive “Digital Trust Solution” for the development of the economy, a key objective of the French government”.

Press Kit

The Worldwide IoT Opportunity

The Worldwide IoT Opportunity is a major development with deep impact to most economic activities.

Recent market forecasts predict 200 billion internet-connected devices and a \$7 Trillion global market for IoT solutions by 2020 (source : IDC), with an effect of 17,5% of CAGR of additional internet traffic, fostering the creation of myriads of new services and economic opportunities.

The lowering of costs of “nanoelectronics”, software and embedded technologies (communications, sensors, smart actuators, processors, new HMIs, protocols, applications, etc..) enables a massive transformation of consumer and industrial devices from isolated to smart and connected, permitting a seemingly endless exploitation of the operational usage data generated by these devices by thousands of value added services.

Fundamental elements of IoT are to:

- Collect data from Smart and Connected “Things” (ranging from wearables, connected devices, sensors, but also complex industrial goods and infrastructure: smart engines, smart cars, smart cities, smart homes, smart grids, etc..)
- Connect all these “Things” via efficient gateways, protocols and networks
- Correlate, Simulate and Exploit all generated data onto Cloud-enabled IoT infrastructure, running analytics and simulation capabilities and alert and monetization services, while ensuring end to end security, safety and ease of use.

The S3P Project and Platform

The **S3P Project** aims at developing a safe, secure and smart software development and execution platform (the **S3 Platform**) to facilitate the development, deployment and exploitation of IoT Devices, Gateway and Applications at the best cost and speed.

The S3P Platform is a technology and development stack ecosystem that is open and interoperable with all major IoT platforms in the world and will add specific value in a number of well defined areas:

- « **Security** » :
 - Enable the development of application software and execution platform on “Edge” and “Gateway” devices that are secure and certifiable from the point of view of IT security.

- As you cannot do Big Data unless you trust Little Data, the S3P project is developing highly trustable execution platforms and code safety design and analysis solutions for use within an IoT end to end security context
- « **Industrial Safety** » :
 - Enable the development of mission- and safety-critical smart connected “Edge” devices, certifiable from the industrial safety point of view for the most dependable and critical industrial devices, such as aircraft engines, autonomous vehicles, energy production systems, medical devices, etc..
 - The S3P Project in particular is developing an integrated design and validation tooling and execution platform environment to develop mission and safety critical application software for smart, safe and connected devices.
- « **Smart Agility and Portability** » :
 - As it is essential to enable IoT developers to monetize quickly and efficiently new data services, the S3P Platform develops extremely low footprint but high portability solutions onto various processing, networking and execution platform environments.
- « **Platform Capabilities** » :
 - The S3 Platform not only integrates development and execution platforms but also systems and application software modelling and analysis tools closely integrated one another and is IoT infrastructure, Cloud and Analytics and Protocol-agnostic.

The **S3 Platform** will foster the creation of a value chain and business models that will lower significantly the cost of developing new IoT applications and devices and lower the barrier to entry to the booming IoT space across all segments, whether they are consumer-facing (home, lifestyle, health, mobility..) or business or community-facing (retail, health, energy, mobility, aerospace & defense, cities, manufacturing, public services, academia, etc..).

The **S3P Project** is organized and funded for an initial period of 3 years.

The S3P Consortium

The **S3P Consortium** regroups a number of Industry Leaders providing a wide array of consumer and business-facing use cases (**Industrial Users Partners**)

- Health and Industry with **Altran Connected Solutions** (World Class Center of Altran), **Axa, Eolane and Sorin**
- Smart Home Monitoring Systems and Personal Services with **Surtec**
- Aerospace and Defense with **Airbus, Sagem and Thales**
- Railways and Mobility with **Alstom**
- Energy and Smart Infrastructure with **Schneider Electric**
- Automotive entertainment systems with **Continental**

The S3P Consortium Technology Platform Partners are:

- Leading Providers of Development Solutions:
 - Embedded systems and software development and analysis tool with **Esterel Technologies, a wholly owned subsidiary of ANSYS, Inc.**,
 - a Code security analysis tool company: **Trust in Soft**
 - together with **LIST, a CEA Tech** Institute as technology provider for systems and software modelling and analysis
 - and the **Eclipse Foundation** as dissemination partner for modelling technologies.
- Leading Providers of Real-Time Execution Platforms (RTOS) with Safety Certification (**Krono-Safe and SYSGO**), and a secure OS provider for devices with **Prove & Run**
- A scalable application store infrastructure, and a studio for embedded software development and execution on resource-constrained chips: **MicroEJ**
- Leading Providers of Virtualization technology stacks that allow the combination of several execution platforms on a single processors while guaranteeing the safety and security of critical components, with the hypervisors of **Prove & Run** and **SYSGO**
- Leading embedded chip manufacturers : **NXP Semiconductors and STMicroelectronics**
- An SME and academic technology dissemination partner : **CAP'TRONIC**,
- Specific technology partners for particular use cases such as **PrismTech** (IoT protocols) and **Telecom ParisTech**

The S3P Alliance

The **S3P Alliance** is built under the aegis of the **Embedded France Association** as a Work Group of Embedded France to develop a wider ecosystem around the S3P Platform to foster the wider national and international deployment of this initiative with the aim at further expanding its usage by other leading consumer and industrial brands, with the main missions described below:

- Gather all S3 Platform users and potential users including the S3P Consortium members
- Ensure linkage with other national and international initiatives (such as Industrial Internet Consortium, Industrie 4.0, etc..) within the IoT domain and within the “New Industrial France” projects
- Gather and provide vision about the market business and technical requirements and opportunities
- Facilitates the broader usage of the Platform and shares its main results

The only requirement to participate to the S3P Alliance is to become a member of the Embedded France Association (www.embedded-france.org) and be co-opted by the members of the S3P Alliance Workgroup.

**Annex:
List of the S3P Consortium Partners**

Partner name	Partner Role
Airbus	Use Case Provider
Alstom	Use Case Provider
Altran Connected Solutions	Use Case Provider
AXA France	Use Case Provider
CAP ^{TRONIC}	Dissemination Partner
CEA	Technology Partner
Continental	Use Case Provider
Eolane	Use Case Provider
Esterel Technologies	Technology Partner and Consortium Leader
Fondation Eclipse	Dissemination Partner
NXP Semiconductors	Use Case Provider
MicroEJ (ex-IS2T)	Technology Partner
Krono-Safe	Technology Partner
PrismTech	Technology Partner
Prove & Run	Technology Partner
Sagem	Use Case Provider
Schneider	Use Case Provider
Sorin	Use Case Provider
STMicroelectronics	Use Case Provider
Surtec	Use Case Provider

SYSGO	Technology Partner
Telecom Paris Tech	Technology Partner
Thales	Use Case Provider
TrustInSoft	Technology Partner

About Alstom

As a promoter of sustainable mobility, Alstom develops and markets systems, equipment and services for the railway sector. Alstom manages the widest range of solutions in the market – from high-speed trains to metros and tramways – and associated maintenance, modernization, infrastructure and signaling solutions. Alstom is a world leader in integrated railway systems. It recorded sales of €6.2 billion and booked €10 billion of orders in the 2014/15 fiscal year. Headquartered in France, Alstom is present in over 60 countries and employs 32,000 people today.

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About Altran

As global leader in innovation and high-tech engineering consulting, Altran offers its clients a new way to innovate. The Group develops with or for its clients the products and services of tomorrow. Altran works along with its clients on every link in the value chain of their project, from conception to industrialization. The Group has been providing its expertise for over thirty years to key players in the Aerospace, Automotive, Defence, Energy, Finance, Life Sciences, Railway, and Telecoms sectors, among others. In 2014, the Altran group generated revenues of €1.756bn. With a headcount of nearly 25,000 employees, Altran is present in more than 20 countries.

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About Axa France

Leader in insurance in France, AXA France supports 9 million clients, individuals, companies and professionals, to ensure their property (vehicles, home, equipment), their family or their employees in health and protection insurances, heritage or their business assets. AXA France has been working over 30 years in different areas of expertise: insurance, assistance, banking, asset management, legal.

In 2014, AXA France generated revenues of Euro 22,9 billion. On the whole territory, it has nearly 34 000 people (employees and business networks). More information: newstoprotect.axa / axa.fr

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About CAP'Tronic

Supported by the minister of the Economy, Industry and the Digital Sector, program CAP'TRONIC aims to help French SME, whatever is their activity sector, to improve their competitiveness thanks to the integration of electronic solutions and embedded softwares in their products.

Fondée par le CEA et bpiFrance, et financée par le ministère de l'Economie, de l'Industrie et du Numérique, l'association JESSICA France met en œuvre le programme CAP'TRONIC dans toute la France.

Celui-ci aide chaque année plus de 2900 PME françaises, quel que soit leur secteur d'activité, à améliorer leur compétitivité grâce à l'intégration de solutions électroniques et de logiciel embarqué dans leurs produits.

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About CEA Tech

The French Atomic Energy and Alternative Energies Commission (CEA) is a public sector research body active in four main fields: carbon-based energy, information and healthcare technologies, very large-scale research infrastructures (TGIR), and defence and global security. CEA Tech, the CEA's technology research unit, leverages a unique innovation-driven culture and unrivalled expertise to develop and disseminate new technologies for industry. Within, CEA Tech, the List Institute focuses its research on smart digital systems. Major economic and social drivers, its R&D programmes are focused on advanced manufacturing (robotics, augmented and virtual reality, non-destructive testing and instrumentation), embedded systems (architectures, software and systems engineering), and ambient intelligence (data processing, communication and interfaces, sensors). www.cea-tech.fr / www-list.cea.fr

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About Continental

Continental develops intelligent technologies for transporting people and their goods. As a reliable partner, the international automotive supplier, tire manufacturer, and industrial partner provides sustainable, safe, comfortable, individual, and affordable solutions. In 2014, the corporation generated sales of approximately €34.5 billion with its five divisions Chassis & Safety, Interior, Powertrain, Tires, and ContiTech. Continental currently employs approximately 208,000 people in 53 countries.

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About Esterel Technologies (a wholly owned subsidiary of ANSYS, Inc.)

Esterel Technologies, a wholly-owned subsidiary of ANSYS, Inc., is the leading provider of critical systems and software development solutions for the aerospace, defense, rail transportation, nuclear, automotive and industrial domains. System and software engineers use Esterel SCADE® solutions to graphically design, verify, and automatically generate critical systems and software applications with high dependability requirements. SCADE has been certified/qualified at the highest level of safety across six market segments by more than ten safety authorities, worldwide including DO-178C, ISO 26262, EN 50128:2011, IEC 61508 and IEC 60880.

ANSYS is the global leader in engineering simulation. We bring clarity and insight to our customer's most complex design challenges through the broadest portfolio of fast, accurate and reliable simulation tools. Our technology enables organizations in all industries to imagine high-quality, innovative and sustainable product designs that have an accelerated time to market. Founded in 1970, ANSYS employs almost 3000 professionals, more than 700 of them with PhDs in engineering fields such as finite element analysis, computational fluid dynamics, electronics and electromagnetics, embedded software, system simulation and design optimization. Headquartered south of Pittsburgh, U.S.A., ANSYS has more than 75 strategic sales and development locations throughout the world with a network of channel partners in 40+ countries. Visit www.ansys.com for more information.

ANSYS also has a strong presence on the major social channels. To join the simulation conversation, please visit: www.ansys.com/Social@ANSYS

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About Eclipse Foundation

Eclipse is a community for individuals and organizations who wish to collaborate on commercially-friendly open source software. Its projects are focused on building an open development platform comprised of extensible frameworks, tools and runtimes for building, deploying and managing software across the lifecycle. The Eclipse Foundation is a not-for-profit, member supported corporation that hosts the Eclipse projects and helps cultivate both an open source community and an ecosystem of complementary products and services. Since the creation of Working Groups, Eclipse addresses new domains like the Internet of Things with the IoT WG, tools for systems engineering and embedded systems with PolarSys, geospatial technologies with LocationTech, and data handling and visualization with the Science WG. In 2013, Eclipse created a subsidiary in Europe and participates to research projects to help them disseminate results in open source.

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About IS2T (MicroEJ)

MicroEJ® produces cost-driven solutions for the smart digital world. With more than \$20M of R&D investment, MicroEJ is focused on providing turnkey software products to solve the embedded world's major business challenges and to enable application-driven experiences and services in the IoT world. MicroEJ helps OEMs create flexible and future-proof smart devices, brings rich user experiences, and enables additional sources of revenue across the whole value chain, from sensor data collection to cloud-based-services. MicroEJ has experienced a strong and steady growth. Today, more than 1 million devices in the world are powered by MicroEJ in a large variety of industries, including home automation, consumer and wearables, communications, smart energy, smart transportation, healthcare, industrial automation, and smart building.

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About Krono-Safe

KRONO-SAFE develops and commercializes a software tool-suite named ASTERIOS based on an innovative real-time operating system (RTOS) for safety-critical real-time embedded systems

and providing an integrated development environment (IDE) to simulate exhaustively and integrate automatically the application on the hardware target.

ASTERIOS guarantees the execution determinism of critical real-time applications on both single core and multicore processors.

KRONO-SAFE serves primarily the transportation (automotive, railways and aeronautic), industrial automation, defence, spatial and health sectors. The ASTERIOS tool-suite includes advantages that are unique among the solutions proposed on the market and that were validated by industrial leaders such as Schneider Electric, Delphi, Alstom and Safran.

KRONO-SAFE is a French Société Anonyme, located at 86 rue de Paris, 91400 Orsay, France.

For more information: www.krono-safe.com

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About NXP Semiconductors

NXP Semiconductors N.V. (NASDAQ: NXPI) enables secure connections and infrastructure for a smarter world, advancing solutions that make lives easier, better and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the secure connected vehicle, end-to-end security & privacy and smart connected solutions markets. Built on more than 60 years of combined experience and expertise, the company has 45,000 employees in more than 35 countries. Find out more at www.nxp.com.

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About PrismTech

PrismTech's customers deliver systems for the Internet of Things, the Industrial Internet and advanced wireless communications. PrismTech supplies the software platforms, tools and professional services they need to build solutions with the required: platform coverage, performance, scalability, efficiency, flexibility and robustness. PrismTech's customers service many market sectors, including: industry, energy, healthcare, transportation, finance, aerospace and defence. For additional information about PrismTech, visit the web site at <http://www.prismtech.com>.

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About Prove & Run

Prove & Run's mission is to help our customers resolve the security challenges linked to the deployment of connected devices and of the Internet of Things. Prove & Run has developed a patented tool chain forged to formally prove the correctness of complex software components and to help certify them at the highest security level, for a reasonable cost. Using this tool, Prove & Run has developed a secure OS/Kernel (ProvenCore) and an hypervisor (ProvenVisor), formally proved for security and ready for integration as COTS that can be used on their own or in combination, to answer the most critical security challenges and to provide the right security foundation for connected embedded systems and more generally the Internet of Things.

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About Schneider Electric

Schneider Electric is the global specialist in energy management and automation. With revenues of €25 billion in FY2014, our 170,000 employees serve customers in over 100 countries, helping them to manage their energy and processes in ways that are safe, reliable, efficient and sustainable. From the simplest of switches to complex operational systems, our technology, software and services improve the way our customers manage and automate their operations. Our connected technologies will reshape industries, transform cities and enrich lives. At Schneider Electric, we call this Life Is On.

Discover Life is On

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About STMicroelectronics

ST is a global semiconductor leader delivering intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. ST's products are found everywhere today, and together with our customers, we are enabling smarter driving and smarter factories, cities and homes, along with the next generation of mobile and Internet of Things devices. By getting more from technology to get more from life, ST stands for life.augmented.

In 2014, the Company's net revenues were \$7.40 billion, serving more than 100,000 customers worldwide. Further information can be found at www.st.com

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About SurTec

SurTec is a French company which conceives, develops, and produces wireless and autonomous burglar alarm systems, as well as solutions and services for secured alarms in emergency situations. SurTec has a strong competency in radio, in transmission (alarms, images, and voice), and doubt removal with both intercom and video.

The Customers of SurTec are mostly telesurveillance and bank-insurance companies, appreciating the simplicity and reliability of SurTec solutions for residential or collective housing and professional premises (shops, offices...).

SurTec has realized a growth of 240% in two years (2012-2014), and a turnover in 2014 of 5,7 million euros with 250 customers in Europe.

More information can be found in English on company's website: www.surtec-alarme.com

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About SYSGO

Since 1991, SYSGO provides operating systems and services for embedded systems. In the late 90's, SYSGO pioneered the use of Linux in the embedded market with the ELinOS distribution. For safety and security critical devices, SYSGO offers PikeOS, the world's first SIL

4 certified hypervisor for multi-core processors, which builds the foundation for smart devices in the Internet-of-Things. With their product portfolio, SYSGO is the leading European RTOS-supplier with customers like Samsung, Airbus, Thales, Continental and many more. Markets include Aerospace & Defense, Industrial Automation, Automotive, Railway, Medical and Network Infrastructure. SYSGO is part of the Thales Group and has facilities in Germany, France, Czech Republic, UK and North America. It maintains a global distribution network and supports its customers in formal certification according to international safety and security standards.

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About Telecom ParisTech

Telecom ParisTech trains engineers to innovate and foster entrepreneurship in a digital world.

Offering a unique set of state-of-the-art education and research skills in Information and Communication Science and Technology, combined with management, economic science and digital social practices, Telecom ParisTech is considered as the leading French graduate school responding to the digital needs of both industry and society. Telecom ParisTech hosts an international and multidisciplinary research Centre for IT technology and management. All Carnot labelled, its research combines disciplinary expertise at the highest level together with a unique capacity for cross-disciplinary and interdisciplinary approaches across all sectorial areas. As a result, it is directly in touch with the socio-economic issues of the digital revolution.

Telecom ParisTech drives the College of Innovation through digital technology of Paris-Saclay, a new multidisciplinary campus whose ambition is to become one of the world's leading innovation ecosystems.

www.telecom-paristech.fr

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About Thales

Thales is a global technology leader for the Aerospace, Transport, Defence and Security markets. With 61,000 employees in 56 countries, Thales reported sales of €13 billion in 2014. With over 20,000 engineers and researchers, Thales has a unique capability to design and deploy equipment, systems and services to meet the most complex security requirements. Its unique international footprint allows it to work closely with its customers all over the world.

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About Trust In Soft

TrustInSoft develops solutions that validate mission-critical software and eliminate attack vectors thereby reducing cyber risks, lowering the cost of designing safety-critical systems, and reducing liabilities. Founded in 2013, the Paris-based company produces TrustInSoft Analyzer, an advanced static source code analyzer, based on the open source Frama-C platform. TrustInSoft Analyzer enables software developers and integrators to exhaustively detect the most frequent and dangerous families of threats before deployment. TrustInSoft also offers professional services and expertise to formally audit safety and security-critical existing software components. For more information visit www.Trust-in-Soft.com.

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