

Nokia 5G smart campus event

October 12th

We create the technology to connect the world

NOKIA

INNOVATION DEMOS

Nokia Bell Labs Future X Experience – 4 demos

Visitors can take a demo tour into the network of the future – a massively distributed, cognitive, continuously adaptive, learning and optimizing network connecting all humans, all senses, all things, all systems, all infrastructure, all processes.

2 Future(Trust+Spaces)

Each new connected device in a home is a source of security or privacy risk. In this demonstration, we show how the joint use of blockchain technology to help assess the trustworthiness of a device and of an intelligent SDN-based network manager allows to greatly limit this risk.

8 Deep learning-based communication over the Air

End-to-end learning of communications systems is a novel concept that has so far been only validated by simulations. It allows learning of transmitter and receiver implementations-without any prior knowledge-that are optimized for an arbitrary differentiable end-to-end performance metric, e.g., block error rate (BLER). We present in this demo a prototype of the world's first communications system whose physical layer is entirely learned and implemented as a deep neural network.

14 Ultra high capacity optical system based on probabilistic constellation shaping

We demonstrate capacity approaching wavelength division multiplexed optical transmission in the lab. The demo will be based on >65Gbaud constellation shaping.

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The Nokia logo is displayed in white capital letters on a blue background. In the background of the entire top section is a low-angle photograph of a tall, star-shaped amusement ride with several people suspended from its arms against a blue sky with scattered white clouds.

21 Active learning for inference in expert systems

Expert systems such as stock exchange or customer-care centers consist of experts of varying expertise and quality, tasked with providing answers to questions of varying types and difficulty. A major challenge in such systems is assigning an arriving task, whose type and difficulty are unknown a priori, to an expert capable of providing an answer. We develop active learning algorithms to infer an incoming task's type and to assign it to experts, with the objective of processing the task quickly.

Nokia Innovation Hub – 2 demos

23 Reloaded NOKIA Garage Paris-Saclay

After 3 years of experimenting the concept, Nokia Garage Paris-Saclay new ambition is to foster co-innovation and cross-fertilization of the numerous innovation initiatives on NOKIA Paris-Saclay campus along with external teams from Paris-Saclay Innovation cluster (such as startup in residence/students). Come and Discover the new space and how this playground could be yours to innovate differently with no fear to fail.

24 The Nokia Innovation Platform and vertical applications

The Nokia Innovation Platform provides a live development and trial environment for start-ups, industries and other partners to accelerate innovation of IoT solutions through an open, collaborative model. It enables innovation projects in the real world with customers and ecosystem partners in Transportation, Cities, Public Safety, Industry and Health. With the Nokia Innovation Platform, industries can create the future of their domains, taking advantage of the innovative capabilities offered by Nokia and its partners in the context of projects.

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TECHNOLOGIES DEMOS

Nokia Experience – 12 demos

Visitors can take a demo tour into the network of the future to discover live 5G network, new 5G processing boards, Cloud based architecture and platform, microwave transport, Mobile Edge Computing, network management, IoT applications, cyber security.

27 BBP ASIK/ABIL 5G Ready boards

Deliver 5G Ready capability with the ASIK controller and the ABIK/ABIL signal processing boards. The BaseBand Hardware team has designed and implemented the ASIK and ABIL boards based on Intel Xeon processor.

In this demo, we will present the ASIK/ABIK ready to run boards as well as the brand new ABIL board. We will run some performance tests to show the performance increase brought by these new boards to support 5G.

29 Cloud RAN architecture: what is it and how does it change the eco-system

With this presentation, you will better understand the motivation, the promises and drivers of the cloud RAN. You will also get an insight into the technical challenges and learn about the disruptive architectural changes.

30 Tackling complexity for mass network configuration

How multi-layered rule system can help configuring wireless networks safely? The demonstration covers typical activity for Nokia customers:

- deployment of new LTE base stations into existing network
- network reconfiguration combining radio topology abstraction, template propagation and consistency rules
- detection and resolution of network deviations using network audit feature

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31 MEC Smart cities crowd analytics

The Nokia Mobile Edge Computing (MEC) platform can rapidly process content at the very edge of the mobile network, delivering an experience that is ultra-responsive as latency is significantly reduced.

Demo demonstrates several technical showcases such as critical communication, augmented reality, virtual reality, WiFi AC200i live, indoor tracking and MEC streaming and stadium solution.

32 AirFrame OCP hardware management

AirFrame Open Compute Project (OCP) hardware management provides an augmented reality 3D interface via Microsoft HoloLens glasses to view, monitor and maintain equipment (servers, switches etc.) within data center.

Demo shows how an Augmented Reality approach with 3D wearable technology allows workers to have access to critical information as they work on servers within a live data center environment, saving time in maintenance operations.

33 Fast start to global Internet of Things (IoT)

Current IoT deployments force enterprises who need to work with multiple technology providers to look for a global IoT connectivity that rapidly and with little efforts allows them to realize new revenue streams. In this context, Nokia worldwide IoT network grid ('WING') enables enterprises to get access to a single partner with a reach across geographical borders to connect and manage a range of their IoT applications.

In this demo we will show how, for a number of connected applications, the right technology is dynamically allocated (cellular/non-cellular) and how we can guarantee, for example, SLAs arrange billing or customer care.

34 Cyber security and threat intelligence

One main challenge is to develop a fundamentally new approach to cyber defense to help security operation organizations to make the best use of their people, processes and technologies through automation. IoT security monitoring, detection and mitigation are performed by integrated function of our NetGuard Endpoint Security solution.

Demo shows how NetGuard security portfolio allows to secure traditional and cloud-based network architectures and protects end users and Internet of Things (IoT) devices from cyber threats. For the first time,

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demo combines our NetGuard Endpoint Security solution with our IoT platform called IMPACT (Intelligent Platform for All Connected Things).

35 Nokia AVA – Analytics unleashed

Nokia AVA is a cloud-based platform that combines big data storage, intelligent analytics and extreme automation, allowing operators to move away from traditional reactive network operations to a cognitive approach that predicts faults and solves them rapidly.

Through this demo, we will show analytics capabilities of the Nokia AVA platform, such as the minimization of Drive Testing, the Cognitive Network Optimization and the Predictive Repair, to spot anomalies and predict hardware failures.

37 Tactical bubbles for secured communications

Secured communication should be quickly deployed in case of specific event or in case of crisis.

Nokia tactical bubble allows to quickly deploy a compact communication system, back pack type, with needed applications linked to the public network or on fully independent manner. The solution is completed with secured terminals.

The demonstration will show how such independent communication solution can be deployed with MN Advanced Mobile Solution (MN AMS) and GS GEPS Services.

38 Customer Doc with augmented reality helmet

CuDo meets... HoloLens

Do not just read. **Experience!**

Augmented Documentation Show, powered by Paris-Saclay Customer Documentation team.

46 X-SENSES as a SERVICE

X-SENSES for everywhere, for everyone. Use the power of your mobile phone to interact with the cloud and extend your senses...

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49 Explore the power of Mobile Network Big Data with NE Web Tools

Presenter: Customer Support, Network Engineering, Product Engineering Paris-Saclay Team

3 use cases / 3 business areas / 3 shows:

- Centralized Lab Management: CRT team Project Management & Lab Support web Tool for new release introduction - Bridge/Klondike
- Big Data Exploration: Network Energy Efficiency / Cost Saving Use Case for customer teams upsales - Slot/Robots/Klondike
- Core network dimensioning: Web Assistant in Telco Cloud environment (EPC/IMS/MME/HSS..) - Acord/Grafen

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6 Ecosystem DEMOS

Paris Saclay is a breeding ground to shape the future of the connected world with a unique ecosystem.

In Paris-Saclay, Nokia teams are collaborating with a rich ecosystem of partners (start-up, industries, enterprises, operators), research (universities, schools, techno-centers) and public sector (cities, regional councils, RIPs...) to prototype innovative use cases in real conditions.

Our demos give a flavor of these collaborations with a focus on technologies and solutions to meet connectivity demands of 5G, connected vehicles, digital health services, smart city, smart home and connected factories.

Located in Nokia-Paris Saclay, these collaborations benefit from the ngConnect ecosystem of innovative technology partners (<http://ngconnect.org>), our Nokia Bell Labs and 5G Technology Center experts as well as our Nokia Innovation Platform (<https://platform.innovation.nokia.com/>) and Open Ecosystem Platform.

39 Protobus (PROTO 204, EPAPS)

The PROTOBUS is the mobile third-party of the PROTO204, EPA Paris Saclay's urban innovation laboratory, focusing on sustainable city themes and mobility in the form of a refurbished articulated bus. The vehicle is an 18-meter articulated bus provided by Transdev equipped with specific furniture and a photobooth, screens provided by NG Connect / Nokia and associated connectivity equipment. The PROTOBUS is a place that include a FabLab, a LivingLab, a showroom and a place for collaborative projects in Paris-Saclay territory.

Come and discover our use cases, from robot for pets to TicaTag badges used in an escape game.

40 Open Ecosystem Network – demander à Myriam

Open Ecosystem Network is an open, cloud based, social & mobile co-creation environment. Built on the principle of data democracy, Open Ecosystem Network shakes up traditional business models and proposes a truly new way of working with different ecosystems from different industries. Developers, subject experts, start-ups, business incubators, universities, budding entrepreneurs who want to share ideas and find the right people to develop them with, Open Ecosystem Network is the place to connect.

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41 Internet of Things for transportation

Based on the Nokia IMPACT IoT Platform, a horizontal platform covering connectivity, data collection, analytics, and business application development, this demonstration illustrates different use cases about 3GPP-V2X for traffic and fuel efficiency, connected rental cars, enhanced car sharing and highlights ngConnect ecosystem.

42 Automatic smoke detection and drone intervention

Discover the intervention and live video transmission from a drone after automatic detection of a smoke by a fixed camera, thanks to a common work of Orange Innovation Program and DroneHive (DroneHive is part of “the startup in residence” program of Nokia in Paris-Saclay).

43 Stand Nokia Digital Health (ex-Withings)

Come and discover Nokia Digital Health connected objects at our stand.

Participate also to our step challenge, on your own or as part of a team and win Nokia Digital Health objects!

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