



# INSPIRE-5Gplus

## 5G+ Security News

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Issue 6-7 / July-December 2021

### Editorial

Dear reader,

INSPIRE-5Gplus has significantly progressed its work in the last months, as you can read in this edition of our newsletter, which covers the period from July to December 2021.

In the Results section, we are proud to inform you that INSPIRE-5Gplus results have been published in the September issue of IEEE Communications Standards Magazine. Furthermore, we would like to draw your attention to our latest deliverables about trust mechanisms for 5G environments (D4.1) and security drivers and associated software-defined models (D3.2).

In the Events section, we report about six events to which INSPIRE-5Gplus contributed, the latest in June being IEEE PIMRC 2021, where INSPIRE-5Gplus partner University of Oulu presented the latest INSPIRE-5Gplus results on security service blockchain for network slice broker.

If you would like to stay up-to-date with our activities and results, we recommend to follow us on Twitter where we regularly post under @INSPIRE\_5Gplus. In addition, you could also regularly check the News section on our project website.

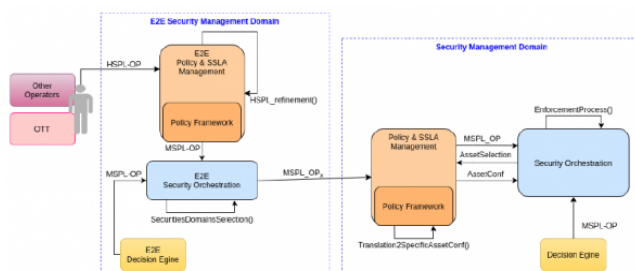
We hope you find the information in our newsletter interesting and valuable, and we look forward to any questions or comments you may have.

Kind regards,

The INSPIRE-5Gplus Team

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### Results



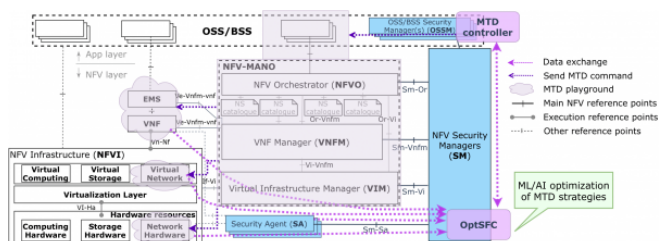
[Security drivers and software-defined models - INSPIRE-5Gplus deliverable D3.2](#)

INSPIRE-5Gplus deliverable D3.2 - Security drivers and associated software-defined models - describes the results of of the INSPIRE-5Gplus work on software-defined models and tools to drive 5G security. The deliverable is focused on identifying the list of governing models and enablers supporting software defined security required by 5G mobile networks. It provides the final version of the APIs that will ...

[Read more.](#)

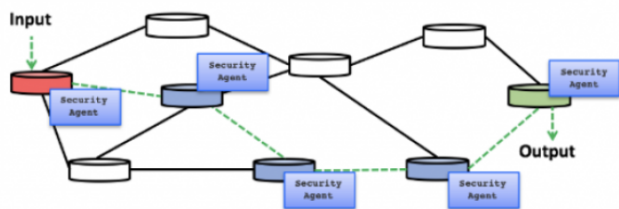
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## [INSPIRE-5Gplus results published in IEEE Communications Standards Magazine](#)



The INSPIRE-5Gplus partners Zurich University of Applied Sciences (ZHAW) and National Centre for Scientific Research Demokritos (NCSR) published an INSPIRE-5Gplus-related paper entitled “Moving Target Defense as a Proactive Defense Element for Beyond 5G” in the September 2021 issue of IEEE Communication Standards Magazine. In this work, the authors propose Moving Target Defense (MTD) as a key proactive defense element to ...

[Read more.](#)



## [Trust mechanisms for 5G environments - INSPIRE-5Gplus](#)

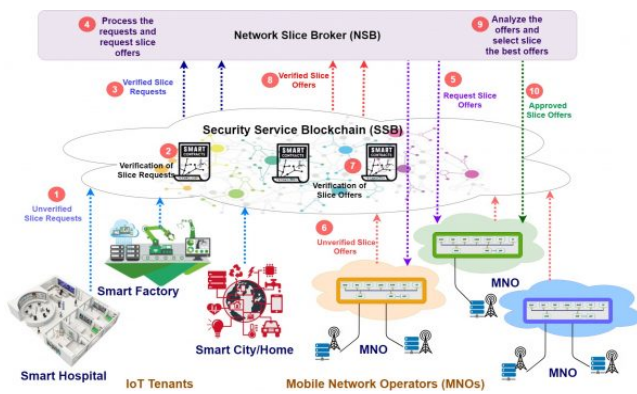
### [deliverable D4.1](#)

INSPIRE-5Gplus deliverable D4.1 - Trust mechanisms for 5G environments - describes the trust enablers identified by INSPIRE-5Gplus. The document introduces the applied methodology and specifically trust mechanisms investigated in the project. It includes a description of each enabler’s functionality as well as the relevant problems and challenges to address, the state of the art in their field, the solution proposed ...

[Read more.](#)

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## Event Reports



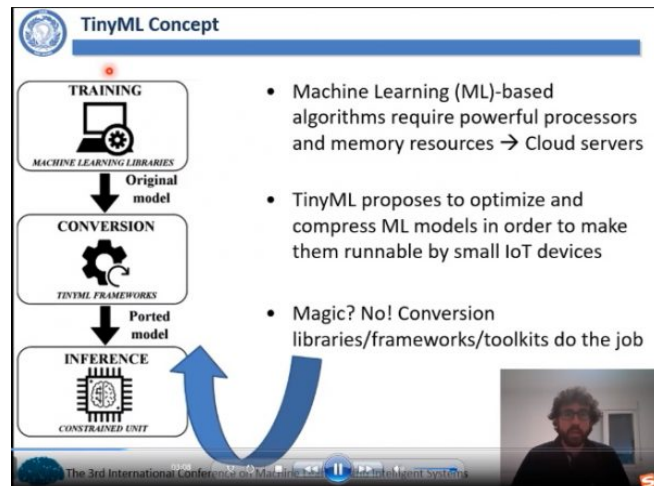
## Security Service Blockchain for Network Slice Broker presented at IEEE PIMRC 2021

INSPIRE-5Gplus partner University of Oulu presented the latest INSPIRE-5Gplus results on security service blockchain for network slice broker at IEEE International Symposium on Personal, Indoor and Mobile Radio Communications 2021 (IEEE PIMRC) with a paper entitled “ How DoS attacks can be mounted on Network Slice Broker and can they be mitigated using blockchain? ”. IEEE PIMRC 2021 was held ...

[Read more.](#)

## INSPIRE-5Gplus insights on TinyML for IoT presented at MLIS 2021

At the 3rd International Conference on Machine Learning and Intelligent Systems (MLIS 2021), which was held online from 8th to 11th November 2021, Dr. Ramón Sánchez Iborra from INSPIRE-5Gplus partner University of Murcia gave an invited talk on the latest insights of the project in the area of Tiny Machine Learning (TinyML). TinyML is an embedded software technology that integrates ...



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**Outline** zhaw School of Engineering

– **Key message:** 5G Networks: a Swiss Knife for connected services leading to **Flexibility**, **Complexity** and **Heterogeneity** conditions

{Threats + Risks} × 5G Characteristics → Security Challenges

– Outline:

- 5G itself
- 5G characteristics and security
- Threats and solution arsenal
- Challenges and some ideas

[Innovationstreiber 5G, 9 Nov. 2021] 4

## INSPIRE-5Gplus talk on 5G security at 5G innovation event in Winterthur

Dr. Gürkan Gür from INSPIRE-5Gplus partner Zurich University of Applied Sciences (ZHAW) gave an invited talk on 5G security at an event on 5G as innovation driver (“Innovationstreiber

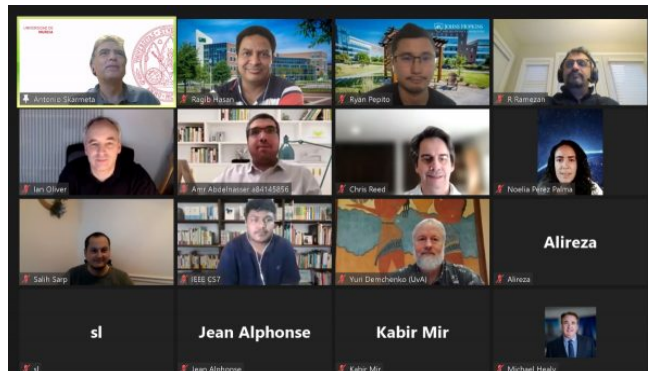
5G”) at Technopark Winterthur in Switzerland on 9th November 2021. The event explored technology, risks and possible applications in the context of 5G-enabled innovation. It provided a forum to discuss various aspects ...

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## [INSPIRE-5Gplus Workshop held at 2021 IEEE 5G World Forum](#)

At the 2021 IEEE 5G World Forum (5GWF'21), INSPIRE-5Gplus held a workshop session named “Workshop on 5G Security: Current Trends, Challenges and New Enablers”. 5GWF'21, the flagship event of the IEEE Future Networks Initiative, was held virtually on 13-15 October 2021. It brought together representatives from industry, academia, and research to share their insights and discuss advances in 5G and ...



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UNIVERSIDAD DE MURCIA

**AI technologies and advanced security for connected devices in next generation networks**

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MobiSec 2021 The 5th International Symposium on Mobile Internet Security

Cyber Security for Europe

INSPIRE-5Gplus

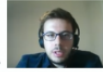
## [Keynote about INSPIRE-5Gplus architecture by Prof. Antonio Skarmeta at MobiSec 2021](#)

Prof. Antonio Skarmeta from INSPIRE-5Gplus partner University of Murcia gave a keynote speech at the 5th International Symposium on Mobile Internet Security (MobiSec 2021), which took place on 7-9 October 2021. The title of his keynote on 8th October was: “AI technologies and advanced security for connected devices in next generation networks”. In his keynote, Prof. Skarmeta analysed the emergence ...

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**Reinforcement Learning-based Misbehaviour  
Detection in V2X Scenarios**



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and Jesus Alonso-Zarate<sup>2</sup>

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<sup>2</sup> i2CAT Foundation, Barcelona, Spain

IEEE International Mediterranean Conference on Communications  
and Networking 2021

Special Session #2: AI Assisted Technologies  
for Connected and Automated Mobility

September 7, 2021



## Misbehaviour detection for V2X presented at MeditCom 2021

INSPIRE-5Gplus partner CTTC  
presented the latest INSPIRE-5Gplus  
results on anomaly detection in

vehicle-to-everything (V2X) environments at IEEE International Mediterranean Conference on Communications and Networking (IEEE MeditCom) 2021, on 7th September. IEEE MeditCom 2021 is held as a hybrid in-person and virtual conference in Athens, Greece, from 7th to 10th September. The INSPIRE-5Gplus paper with the title “Reinforcement Learning-based Misbehaviour Detection ...

[Read more.](#)



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