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*Improve processes, detect current problems,  
prevent costly downtimes, and produce better products*

# REFERENCES

## MAINFLUX LABS

Open Source Internet of Things Technology & Consulting Services

**Mainflux Labs**  
Veljka Dugosevica 54  
Belgrade Science Park  
11000 Belgrade, Serbia  
[www.mainflux.com](http://www.mainflux.com)

# What We Do

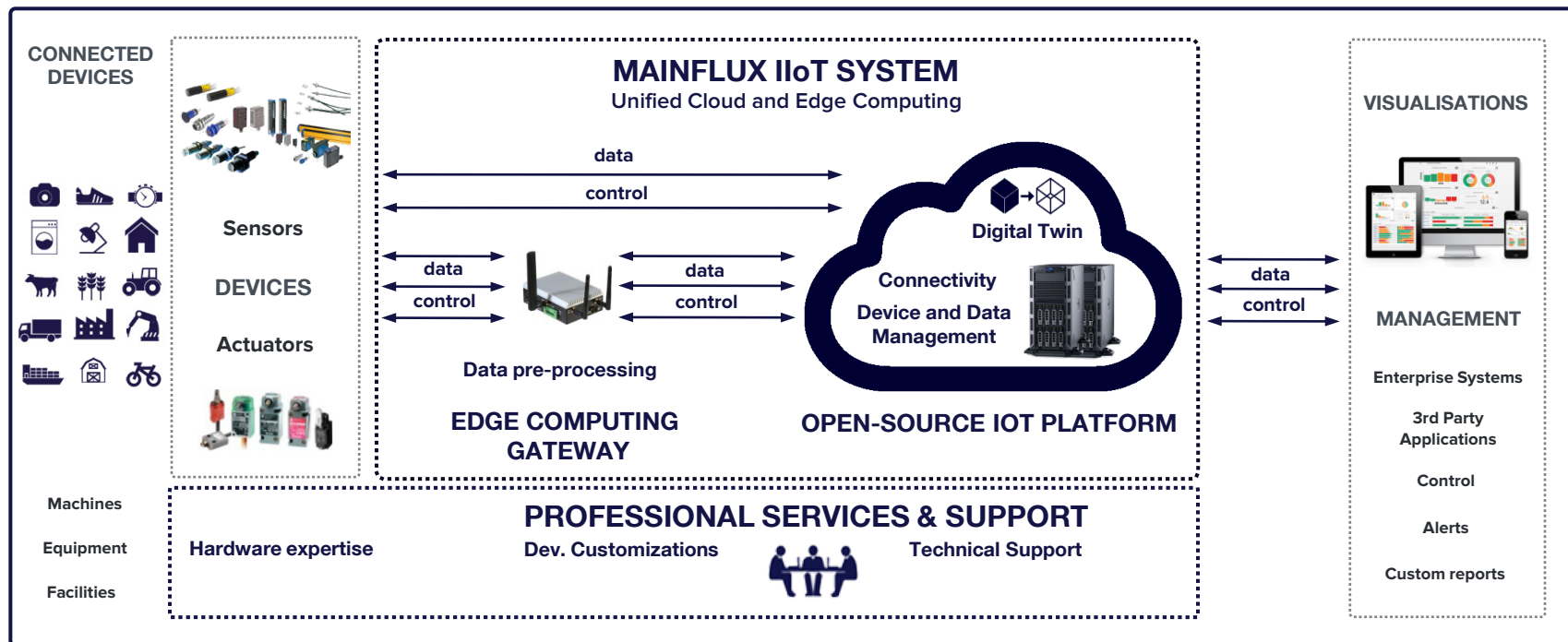
Mainflux Labs is providing

A

Mainflux  
IIoT System

B

Professional  
Services & Support



# What We Do

## PROFESIONAL SERVICES

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Based on  
one-off contractual agreements

Consultancy Around Product Design, And Architecturing

Proof Of Concept (Poc) Project's

Integration's And Pilot's

Advanced Services And Customizations

## SUPPORT

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Based on  
subscription package

Technical Support

Workshops

Training

## MAINFLUX ENTERPRISE EDITION

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Packaged collection of open source Mainflux IoT platform components  
provided as a signed binaries and/or Docker images

# Mainflux Technology Adoption



**Target USA - 1800 Stores  
Non-contractual Partnership**

Implementation of Mainflux IoT Platform as Core IoT platform in Smart Retail Store project. Extending LoRa support in Mainflux. Using Mainflux IoT Platform for management of remote gateways. Mainflux IoT platform deployed in 50 stores, preparing for launch the remaining 1800 stores.

Video: Principal Engineer of Target's IoT platform Dan Cundiff: Building an IoT Platform at Target.



**Software DEVELOPER ZONE**

**Intel USA - Non-contractual  
Cooperation**

Intel demonstrates Mainflux IoT Platform for metering on the edge, with article "View Metering In Action On Edge Middleware Platforms"

**400,000 DOWNLOADS  
of Mainflux SW Repositories**



**Conferences  
Speaking Engagements**

Presented on 16 world conferences in Europe, USA and China

Open Networking Summit - Santa Clara  
O'Reilly Software Architecture - London  
ITNext Summit & Codemotion - Amsterdam  
Embedded Linux Conference - Portland  
IoT Solutions World Congress - Barcelona  
Redis Lab - San Francisco  
ONS - Shanghai



**Linux Foundation  
Membership & Awards**

Two awards from the community of 80 companies and EdgeX Governing board:

1. Community Contribution Award for Exemplary Leadership
2. Innovation Award for Extensive Technical Contribution.

**572,426** DL  
MQTT adapter service

**451,601** DL  
HTTP adapter service

**106,287** DL  
WebSocket

**447,629** DL  
Things service

**413,010** DL  
Users service

# Mainflux Technology Adoption



**Osiris Systems  
for India Coast Guard**

Mainflux IoT Platform is used for development of "Smart RoBo Monitoring Application Smart Server Racks with integrated Chilling Unit, UPS, PDU, environmental and safety sensors. India Coast Guard has already deployed 26 such Smart Server Racks deployed across various locations in India, and is planning to deploy 80 plus such servers in the coming months.



**Strictit  
School Management System**

Strictit ERP and Quality Management and industrial automation company, working mostly in German SME as well in industrial facilities on 4 continents of the world, developed and commercialized school management solution for Switzerland high schools, using Mainflux IoT platform.



**USA/India  
BTS Tower Monitoring**

Asset Monitoring for Mauritius Telecom BST Towers powered up with ECB, Diesel Generator, Battery Bank. The feed from the existing sensors, do the required calibration at the hardware level, aggregate and transmit the data to the cloud for further analysis using predictive maintenance which provides energy savings.



**Taloslogy – Sri Lanka  
Home Automation**

Application catering to the home automation segment, with four components in application:

- Device Management (Mainflux)
- Application Backend
- Consumer Mobile Application (Flutter)
- Device Design, Manufacturing, Firmware
  - Smart AirCondition Automation
  - Smart Gate (Roller gate) Automation
  - Refrigerator Monitoring

# Mainflux Technology Adoption – EU H2020

## Participation in projects funded by EU H2020 Research and Innovation program



Horizon 2020  
European Union Funding  
for Research & Innovation

**sbp**  
schloich  
bergemann partner

**NCC**

Technische Universität Berlin

**EU H2020 - EUR 5mil  
Digital Building Twins**

Member of the consortium funded by EU H2020 Research and Innovation program for development of assistants for Safe, and Productive Virtual Construction Design, Operation & Maintenance using a Digital Twin. Mainflux was invited by TU Berlin, other members include Erasmus Universiteit Rotterdam, German and Scandinavian construction structural engineering companies. Duration 2020-2023.



Horizon 2020  
European Union Funding  
for Research & Innovation

**TU Delft**  
Delft University of Technology

**Fraunhofer FOKUS**

**Telefonica**

**NEC**

**EU H2020 - EUR 5mil  
Trustworthy AI**

Member of the consortium funded by EU H2020 Research and Innovation program for development developing resilient accountable metrics, privacy-preserving methods, verification tools and system framework that will serve as critical building blocks to achieve trustworthy AI in security solutions. Member of consortium Includes Fraunhofer, Delft University of Technology, Telefonica, NEC, among the others. Duration 2021-2024.

## Participation in consortiums that competed for EU H2020 funding



Horizon 2020  
European Union Funding  
for Research & Innovation

**Fraunhofer IAPT**

**SIEMENS**

**FIAT**

**HEXAGON**

**Quality Control In  
Smart Manufacturing  
EUR 10 mil**

Mainflux Labs was invited by Fraunhofer IAPT to participate on 10 million EUR Call which aims to address the challenge of data reliability, the sensors, actuators and instruments used at various levels of integration in the manufacturing process.



Horizon 2020  
European Union Funding  
for Research & Innovation

**UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH**

**altran**  
new Companies

**Alcatel-Lucent**

**TECHNISCHE UNIVERSITÄT KAISERSLAUTERN**

**Cloud Computing:  
Towards A Smart Cloud  
Computing Continuum  
EUR 4mil**

Invited by Universidad Politecnica de Catalunya, Barcelona, to participate on a 4million EUR H2020 call for comprehensive cloud solutions and testbeds combining for ubiquitous and seamless execution computing environments.



Horizon 2020  
European Union Funding  
for Research & Innovation

**Technische Universität Berlin**

**Erasmus University Rotterdam**

**SIEMENS**

**Upgrading Smartness  
of existing Buildings  
EUR 5mil**

Mainflux Labs was invited by by TU Berlin to participate on a call which aims improve the smart readiness of buildings to allow for energy savings, more flexible operations, increased usability, and better maintainability.

# Clients and Reference Business Cases



## Worldwide Provider of Oilfield & Gas Equipment - USA

**Start: 06/2018 / End: Ongoing**

**First phase:** Consulting services for edge computing gateways.

**Second phase:** Implementation of Mainflux IoT Platform for management of IoT gateways deployed in the field. Implementation of Mainflux IoT Platform as the Core IoT Platform for gathering operational data from connected Oil & Gas equipment.

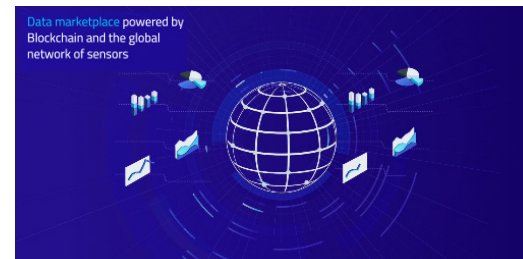


## Independent Software Vendor Locomotive Digital Twins

**PoC - Start: 11/2019 / End: 02/2020**

Enhancing ISV Client Platform product with an automatic gathering of telemetry data from the equipment, remote and/or autonomous rule-based equipment controlling.

Monitoring of operational indicators of underlying IoT specific IT-infrastructure, remote control of the lifecycle of remote devices.



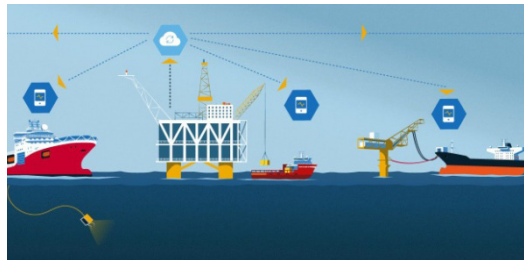
## Datapace - NOKIA Digital Accelerator Startup - France

**Start: 09/2018 / End: 10/2020**

Development of blockchain powered (Hyperledger) data marketplace for the comprehensive, secure and automated monetization and exchange of IoT sensors and digital assets data with technical and policy-based data verification and the access to a global network of sensors provided by Nokia Sensing as Service.



# Clients and Reference Business Cases



## System Integrator India

**PoC - Start: -10/2019 / End: 02/2020.**

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IoT Platform connected with provisioning, monitoring & analysis with mongoDB with full UI.

First phase: Oil & Gas use case demo kit.



## System Integrator - Germany / Japan Manufacturer

**PoC - Start: 12/2019 / End: 03/2020**

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Connecting pharma manufacturing machines via enterprise network to Mainflux. Using OPC-UA industrial protocol. Updating machine and process Digital Twin representation and record it to a semantic database. Integration of MES/ERP systems for process automation, replacing costly historians.



## System Integrator East Europe

**PoC - Start: 09/2018 / End: Ongoing**

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PoC - Customization of IoT platform for NB-IoT devices for smart metering aimed for Telecom from Eastern Europe.



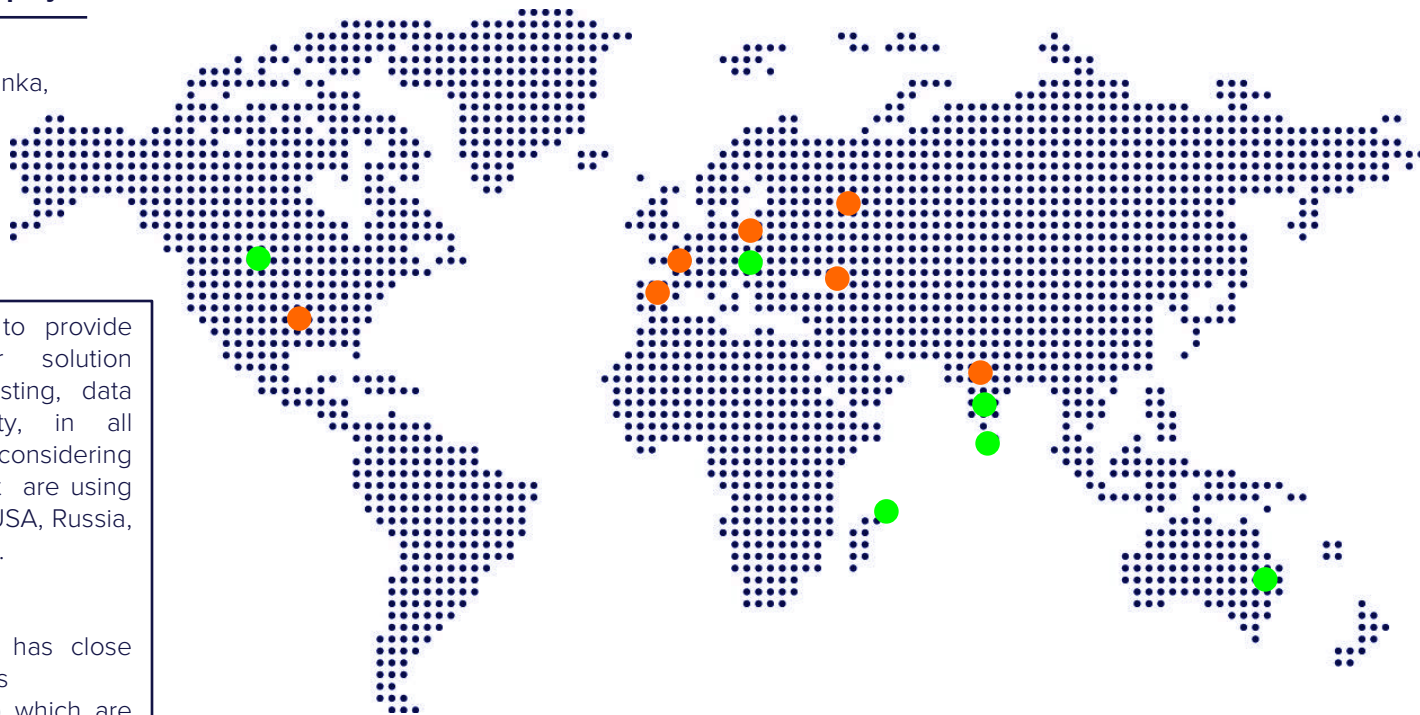
# Mainflux Globally

## Countries in which Mainflux is deployed

USA, Russian Federation, Germany  
France, Switzerland, Georgia, Sri Lanka,  
India, Mauritius, Spain, Australia

Mainflux Labs is in a position to provide credible recommendations for solution deployment with regards to hosting, data storage, communication security, in all mentioned markets except China, considering that its clients and companies that are using Mainflux technology are based in USA, Russia, EU, Switzerland, India and Australia.

Regarding Russia, Mainflux Labs has close relations with two companies/clients (from Moscow and St Petersburg) which are operating within domain of Internet of Things, and have firsthand experience with all relevant regulations.



● Mainflux Labs clients

● Companies which are using Mainflux for their projects and solutions

# THANK YOU!

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