ITEA Office
High Tech Campus 69 - 3
5656 AG Eindhoven
The Netherlands

T + 31 88 003 6136
E info@itea3.org
W www.itea3.org

ITEA 3 is a EUREKA strategic ICT cluster programme

Exploitable Results by Third Parties

13011 M2MGrids

Project details

Project leader:	Juhani Latvakoski
Email:	Juhani.Latvakoski@vtt.fi
Website:	m2mgrids.erve.vtt.fi

Name: Energy Grid Adaptive Demand Supply Device Gateway		
Input(s):	Main feature(s)	Output(s):
▪ Adaptive demand supply household and industry devices	▪ Creates a device and application oneM2M enabled resource pool ▪ Communicates resources protocol independent way with each other ▪ Manage energy flexible devices as a gateway according to smart energy grid cloud ecosystem	▪ Energy management of adaptive demand supply household and industry devices
Unique Selling Proposition(s):	▪ oneM2M and EFI protocol support ▪ Effort effective integration with specific device protocols	
Integration constraint(s):	▪ Adaptive demand supply device support	
Intended user(s):	▪ End users ▪ All kind of structures equipped with adaptive demand supply devices such as factories, universities, hotels and etc.	
Provider:	▪ KoçSistem Bilgi ve İletişim Hizmetleri A.Ş.	
Contact point:	▪ Erdem Ergen erdem.ergen@kocsistem.com.tr	
Condition(s) for reuse:	▪ Licensing	
	Latest update: 28.03.2018	

Name: World Wide Streams (WWS)		
Input(s):	Main feature(s)	Output(s):
▪ Data flows ▪ Various onboardable entities	▪ Appealing stream processing data flow programming language (XStream) ▪ Smart compilation and dynamic deployment ▪ Flexible onboarding of devices, external services and algorithms	▪ Executing stream-intensive services on cloud, edge cloud and devices

Unique Selling Proposition(s):	▪ Easy stream-intensive service design for no-worries distributed and multi-actor cloud/edge deployment
Integration constraint(s):	No essential integration constraints: ▪ WWS can onboard any device as a set of ingress/egress data streams, using any popular message passing protocol. ▪ WWS can onboard any algorithm or legacy service code. ▪ WWS is scalable to various stream-intensive scenarios. ▪ WWS can interwork with any legacy solutions that can be registered as a data (stream) interaction. ▪ WWS can be hosted on any cloud environment, on-premises servers, or even small-footprint devices (including OneM2M).
Intended user(s):	▪ Service creators, JavaScript programmers and domain experts (can be employees of a service company in a given domain, such as utilities and other energy domain business actors)
Provider:	▪ Nokia
Contact point:	▪ info@worldwidestreams.io
Condition(s) for reuse:	▪ Hosted as a free service for experimentation by selected partners (http://www.worldwidestreams.io/) ▪ (Planned:) Dedicated instances hosted for commercial trial partners, various pricing models (per processing/traffic units, per service, per use, etc.) ▪ (Planned:) Commercial licenses for customer-premise deployments
	Latest update: April 2018

Name: Bittium Smart Watch Reference Design with RTOS		
Input(s):	Main feature(s)	Output(s):
▪ Heart rate ▪ Skin temperature ▪ Skin conductance ▪ Configuration data through BLE	▪ OHR (Optical Heart Rate) based heart beat measuring ▪ Skin temperature measuring ▪ Skin conductance measuring ▪ Accelerometer	▪ OHR data/results ▪ Skin temperature data/results ▪ Skin conductance data

Unique Selling Proposition(s):	▪ Extensive sensor support ▪ Latest technology is utilized in sensors to enable to use latest algorithms e.g. sleep, stress and fatigue
Integration constraint(s):	▪ Processor: Nordic Semiconductor nRF52832 (Cortex M4 CPU) ▪ OS: FreeRTOS ▪ Flash memory: Flash memory 1 Gbit ▪ Display: o 0,7” OLED, Mono Color o Resolution 128 x 80 pixels
Intended user(s):	▪ Bittium wearable platform for health monitoring features the Cortex M4-series CPU with Bluetooth Smart radio. It is designed for low to midend wearable devices such as health trackers. The wearable platform enables the customization of unique, purpose built products with optimized BOM, development cost and time-to market. ▪ The wearable platform opens up new opportunities for enterprise, healthcare and wellness domains to develop algorithms and test new healthcare specific applications and services such as remote patient monitoring or professional driving applications.
Provider:	▪ Bittium
Contact point:	▪ Bittium ▪ Ritaharjuntie 1, FI-90590 Oulu, Finland ▪ Tel. +358 40 344 2000 ▪ www.bittium.com
Condition(s) for reuse:	▪ Licensing

Latest update: 06.04.2018

Name: Bittium Medical Analysis Cloud		
Input(s):	Main feature(s)	Output(s):
▪ EEG/ECG/EMG Biosignals (EDF/EDF+)	▪ Bittium-secured data-storage ▪ Real-time annotations of biosignals ▪ Biosignal reviewing remotely anytime anywhere ▪ Automatic Real-time analysis	▪ Raw biosignals in EDF+ format ▪ Real-time biosignal data ▪ Pretreated data analysis ▪ Annotations
Unique Selling Proposition(s):	▪ All data flow is fully AES-crypted from end-to-end ▪ All access to data is logged and require authentication ▪ Dedicated servers are operated by Bittium ▪ Easily integrate 3rd party analysis	
Integration constraint(s):	▪ SafeMove VPN connection ▪ Cloud provides REST interface which can be used to access Cloud	
Intended user(s):	▪ Medical devices/platforms which needs data analyzing and storage services	
Provider:	▪ Bittium	
Contact point:	▪ Bittium ▪ Ritaharjuntie 1, FI-90590 Oulu, Finland ▪ Tel. +358 40 344 2000 ▪ www.bittium.com	
Condition(s) for reuse:	▪ Licensing	
	Latest update: 06.04.2018	

Name: Eteration Complex Event Processor		
Input(s):	Main feature(s)	Output(s):
▪ Real–time big data from various devices/sensors	▪ Data stream processor with complex event processing capabilities ▪ Tools and DSL for Event Streams and Execution Plans	▪ Management of the real-time events within big data according to the execution plans

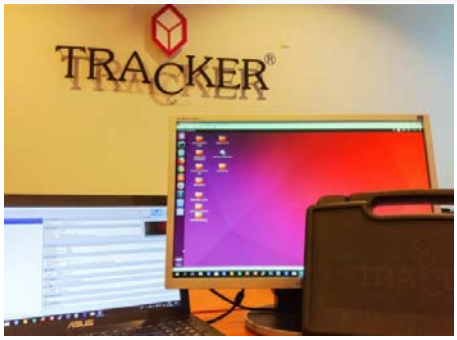
Unique Selling Proposition(s):	▪ IoT Cep Engine that is capable of running in embedded gateways and high scale cloud environments. ▪ Scalable m2m event processing and tools
Integration constraint(s):	▪ No essential integration constraints
Intended user(s):	▪ Any environment/platform that manages big data
Provider:	▪ Eteration
Contact point:	▪ Eteration ▪ www.eteration.com ▪ Tel: +90 (212) 328 08 25 ▪ info@eteration.com
Condition(s) for reuse:	▪ Licensing

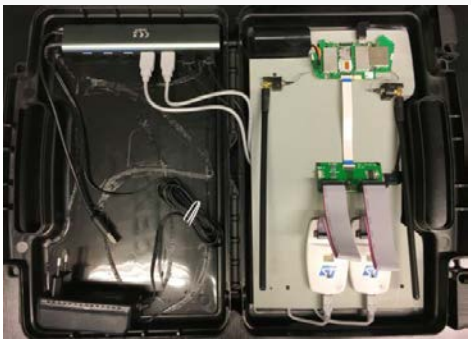
Latest update: 16.04.2018

Name: Tracker T-IDE+ Integrated Development Environment		
Input(s):	Main feature(s)	Output(s):
▪ GNSS ▪ Microphone ▪ Cellular networks from NB-IoT to full 4G ▪ LoRa ▪ 433 MHz RF ▪ Bluetooth ▪ External I/O connector for external devices as Camera ▪ Solar power ▪ Compass ▪ 3D moving sensor / accelometer ▪ Magnetic switch	▪ Ready development environment ▪ Drivers ▪ Backend support ▪ Fast implementation, start programming within 10 minutes. All in solution ▪ Low power consumption, high set features for prototyping and designing devices ▪ The software can be implemented in simulated environment and tested in HW ▪ Waterproof 3D reference design available ▪ Enough performance to reroute video stream ▪ Versatile power control and measurement methods to maximize battery life and giving detailed information about power consumption.	▪ Ready device for different application areas ▪ Ready application development environment ▪ Ready backend to manage devices, store history and transfer real time data ▪ Communications to different radio networks ▪ Speaker ▪ Vibra ▪ Led lights

Unique Selling Proposition(s):	▪ Ready low power development platform to rapidly create IoT device / router / platform with end to end connectivity ▪ Ready drivers and reference applications ▪ Ready server backend if needed ▪ Ready waterproof reference mechanical design and antennas ▪ Ready battery for long time operation. Can be used with primary or rechargeable battery.
Integration constraint(s):	▪ Processor: STM 32 F446, 180MHz (Cortex M4 CPU) ▪ OS: NuttX ▪ Flash memory: Flash memory 512Mb in processor + 128Mb external
Intended user(s):	▪ The platform enables the customization of unique, purpose built products with optimized BOM, development cost and time-to market. ▪ The platform opens up new opportunities for companies to develop new products independent operations applications and services such as monitoring, tracking or control assets or environment. The device can be also gateway for sensors.
Provider:	▪ Tracker
Contact point:	▪ Tracker ▪ Kauppiaantie 30, 90460 OULUNSALO

Name: Tracker T-IDE+ Integrated Development Environment	
	▪ Tel. +358 8 521 9000 ▪ hannu.lohi@tracker.fi ▪ www.tracker.fi
Condition(s) for reuse:	▪ Licensing ▪ Negotiable





Name: IMEC Air Quality Monitoring Platform		
Input(s):	Main feature(s)	Output(s):
▪ Temperature ▪ Humility ▪ CO_2 density ▪ NO_2 density ▪ Ambient light ▪ Particle ▪ VOC (volatile organic compounds)	▪ Large deployment of 50 nodes, and each with multiple sensors and BLE radio ▪ Network setup with sensor node, gate way, and cloud ▪ Real-time monitoring for the indoor and outdoor air quality information, to be used for smart building and smart city applications	▪ Real-time monitoring/accessing of the sensing data ▪ Data storage in the cloud
Unique Selling Proposition(s):	▪ Low power air quality monitoring platform ▪ Network infrastructure ▪ Long history of data recording ready for data mining	
Integration constraint(s):	▪ In-house developed low power NO_2 sensor ▪ In-house developed BLE radio, but can be easily replaced with commercial Zigbee/BLE radio	
Intended user(s):	▪ Smart building operators ▪ Smart city operators ▪ Hotspot operators (airport/train station/stadium)	
Provider:	▪ Imec-NL	
Contact point:	▪ Imec-NL ▪ High tech campus 31, 5656AE, Eindhoven, the Netherlands ▪ Yan.zhang@imec-nl.nl ▪ https://www.imec-int.com/en/connect-with-us/imec-the-netherlands	
Condition(s) for reuse:	▪ Licensing ▪ Negotiable	
	Latest update: 18.04.2018	