Radar & IQRF based car & people counters

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Outline

- About TCP
- New in Hexio IoT Platform
- Radar smart city use-case
- Radar smart city demo
- IQRF based radar counter / classifier
- Radar characteristics
- Radar use cases
- Radar demo on IQRF Summit 2019
- Plans for integration

About TCP

- Czech company developing enterprise IoT platform
- IoT consulting, data analysis and custom solutions
- Focus on smart cities and Industry 4.0

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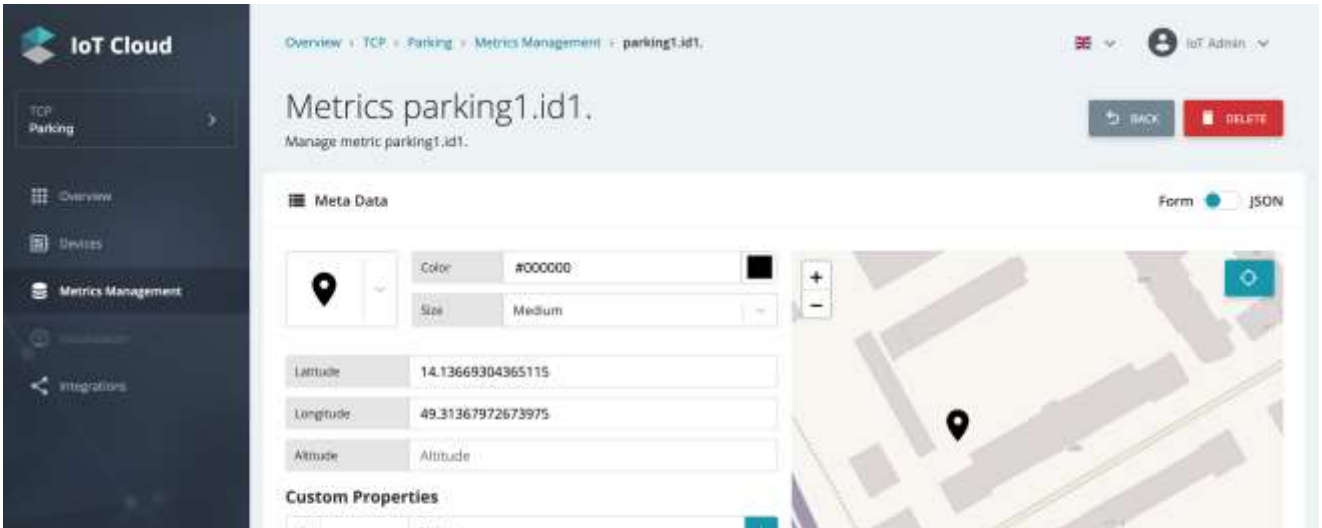
What is new

- Ready for IQRF daemon integration with simple setup
- Custom dashboards
- Meta-data



Radar Smart City Use-case

Traffic Management

- Monitoring the utilization of roads and bicycle paths
- Vehicle passage counting in both directions and lanes
- Provides data for better planning

Available Sensors

- Cameras - expensive, privacy issues
- Optical gates - difficult installation, worse precision
- Doppler radar - affordable, easy installation, good precision

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Demo of radar smart city use-case

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IQRF based radar counter / classifier

Goal

- Bring new radar counter device to IQRF Alliance portfolio
- Support of new integration projects

New device by MICRORISC

- Based on radar K-LC7 from Rfbeam (CH)
- Based on software form Ralab (UK)
- Integration with TR-76DA MICRORISC (CZE)
- Compatibility with IQRF standard

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Radar Characteristics

Moving object detection

- Object speed 0.1km/h – 120km/h
- Detection range up to 50m

Object classification by software processing

- People, Bikes
- Motorbikes, Cars, Trucks

Additional information

- Direction, Size, Speed

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Radar Use Cases

Outdoor applications

- Security
- Facility management (people counting)
- Street light activation
- Traffic monitoring - Bike, car, truck counting
- Traffic control - Intersection management

Indoor application

- Light activation
- Presence detection

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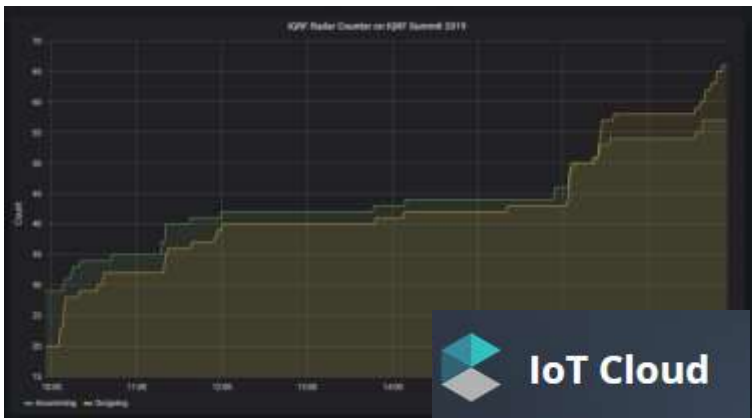
Radar counter demo

- Counts incoming and outgoing, statistics
- Connected using IQD-GW-01 to IoT cloud from TCP
- Visualization using Grafana



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Plans for Integration

Milestone 1 – Presentation, Proof of concept

- Presentation on IQRF summit 2019
- Testing / Evaluation

Milestone 2 – Development of pilot series (Q2 2019)

- Development of own hardware
- Optimization of Radar API (Ralab)

Milestone 3 – Testing and evaluation (Q1 2020)

- Discussion about final design
- Integration into pilot projects

Milestone 4 – Full production (3Q 2020)

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