u-track
Low power tracking demonstration toolset

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Innovation is our lifeblood
Strong innovations lead to the future

- We have been first to market with many technology solutions.

1998
Surface mount GPS receiver

2002
GPS receiver chip

2009
Wireless cellular communication technology

2010
Cellular UMTS (3G) module

2014
Bluetooth/Wi-Fi modules

2015
Cellular chipset technology

2016
Untethered 3D dead reckoning module

2017
Super-low-power GNSS chip

2018
ZOE-M8 SiP with Super-E mode

F9 platform
V2X chipset short range technology
Why does this toolset exist?
Reduced size and low power are key

- More consumer and IoT applications want to integrate GNSS
  - Consumer: Smart glasses, smart headsets, Virtual Reality, UAVs, ebike, Smartwatches
  - IoT applications (enabled by new LTE Cat M1 / NB1): asset, people & animal tracking, emergency call, etc.

- Those applications can only be enabled with:
  - Fast time-to-market and low development investment
  - Small size
  - Low power consumption

New applications can only be enabled, when small size and low power levels are reached
Why does this toolset exist?

The typical requirements

**Sport**
- Position on the device
- Precise and continuous
- Hours of battery life

**People**
- Position on the device & cloud
- Building level accurate
- Days of battery life

**Asset**
- Position on the cloud
- Block level accurate
- Month of battery life
Why does this toolset exist?
Reduced size and low power are key

• How should I configure the GNSS to achieve my power consumption goal?

• What is the best strategy for an application requiring one position / day?

• What will my battery life be, if I upload a position every five minutes to my server?

• Which type of assistance should I use?
Introducing u-track toolkit
Technology details – 3 pillars

1. u-blox C030-R412M application board (includes GNSS and Cellular antennas)
   • + SD Card
   • + Battery (optional)

2. Embedded software sample code on C030 MCU
   • MBED RTOS

3. u-track software running on a laptop
u-track application software

Software overview

• Runs on PC or laptop (Windows 10)
• Automatically updates the embedded code in MCU
• Easy configuration of the use case (select one of available presets)
• Start / stop onboard logging
• Replay / pause / fast forward log files
• Display power, accuracy and TTFF in user friendly dashboard
Nine optimized presets
for testing different use cases

- Preset 1
- Preset 2
- Preset 3
- Preset 4
- Preset 5
- Preset 6
- Preset 7
- Preset 8
- Preset 9

Battery life
- Months
- Days
- Hours

Performance (update rate)
- Seconds
- Minutes
- Hours

u-blox AG
u-track highlights
Low power tracking application toolset

- Replicates a real low power tracking application, which is ready to test in less than 15 minutes
- Reduces development complexity thanks to ready-to-use embedded application code
- Accelerate time-to-market thanks to pre-optimized presets for different use cases
- Optimized low power GNSS and LTE Cat M1/NB1 solution
- Log, retrieve, and visualize power, accuracy, and TTFF in a user friendly dashboard
Thank you for your attention