

# APOLLO

## Low-Consumption GNSS receiver User Requirements



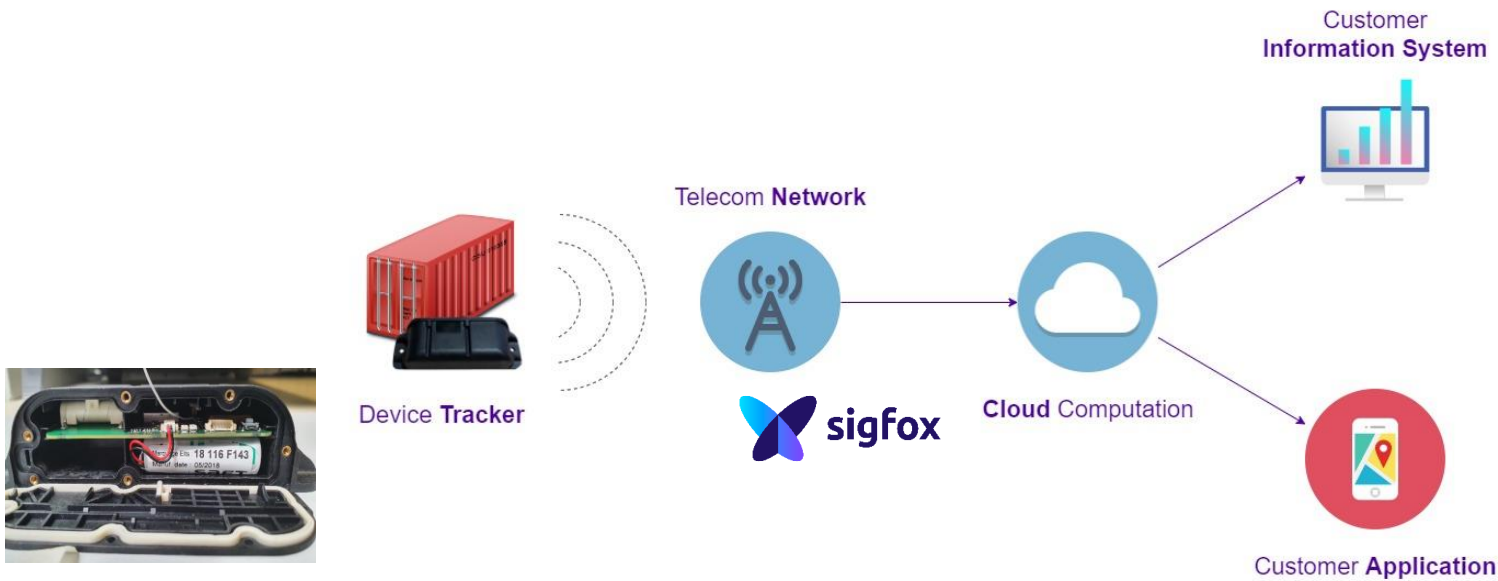
## Speaker



- **20 yrs in the development of smartphone (Alcatel mobile phones, Motorola)**
- **10 yrs in the development of indoor and outdoor solution**
- **Since 2016 in Syntony, Engineering director**
- **In charge of new product line in Syntony to address IOT market**

# APOLLO project

- No GNSS Chipset
- RF Front end Only
- SW lib running on cortex M4 (STM 32)
- 10 to 20 times more energy efficient
- 3x cheaper than a GNSS Chipset



Above Goal (with STM 32) 1pos = in 3 sec

# The performance KPIs







ID	Description	Classic GNSS chipset	APOLLO Acceptance	APOLLO Ref 1.0	APOLLO Ref 1.4	APOLLO Ref 2.0	APOLLO Ref 3.0 Adaptive
Time Tag	Accurate time of acquisition		N.A	100 ms	N.A	N.A	N.A
Coarse position	Cellid		N.A	150 km	20 km	N.A	N.A
KPI 1	Processing time (sec)	45	< 10	10	3	3	1 to 5
KPI 2	RAM (kB)		<= 128	160	< 128	< 128	< 128
KPI 3	Accuracy (meter 1 sig)	18	<= 20	40	27	25	20
KPI 4	Payload of the message over the air (Bytes)	88	< 24	24	< 20	< 20	12 to 24
KPI 5	Energy (Cortex M4) to get a position (mAh)	0,38	< 0,05		0,025	0,025	0,025 to 0,05

DONE

IN PROGRESS



# Verticals & Criterium & Key Drivers

	TRAILERS <i>Optimization of the traffic</i>	CONTAINERS <i>Speed up Supply chain</i>	WORKERS <i>Safety</i>	PACKAGING <i>Speed up Supply chain</i>
Accuracy	20 	<10 	10 	20 
Service Area	Nation wide	World Wide	Regional	World wide
Availability	Outdoor	Outdoor /Urban	Urban/ light indoor	Outdoor /Indoor
Battery Life	> 2 yr	5 yr	1 yr	> 6 m.
Nb of pts / day	6-10	1-4	> 360	96


No solution with GNSS

# Thank you

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