

Social distancing is key to slowing the spread of COVID-19
Contact tracing is essential in breaking the chain of infection

The **CERN medical service** invested a lot of effort in this manual memory-based process



Solution: a device that automatically detects peers making the contact tracing process more reliable and efficient

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1 February 2021 | COVID-19: Surveillance, case investigation and epidemiological protocols

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distance: 2 meters
time: 30 seconds

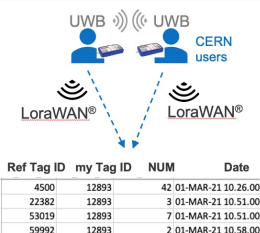
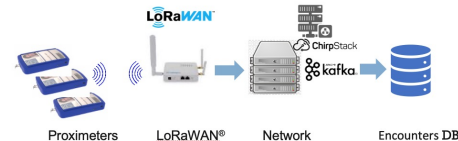
Encounter: 2 devices, 2m and 30 seconds
Close contact: at least 15 minutes encounter

Proximeter



Mini IoT
TERAbee <https://www.terabee.com>

Requirements	Solutions
Precise detection	UWB technology
Warning	Buzzer and visual LEDs
Easy to use	Wearable device
Autonomy	Large capacity battery
Encounters accessibility	IoT networking: LoRaWAN®
Privacy	Encryption and no geotagging



Data privacy by design
Separation of databases
Pseudonymization with IDs
Encryption



Sensor TagID 0xd332c
Device ID 20286580

Device ID **Person ID** **Date**
20286579 611264 17-FEB-21 21:27:41
20286580 786770 18-FEB-21 10:33:04
20286582 375641 25-FEB-21 11:54:51

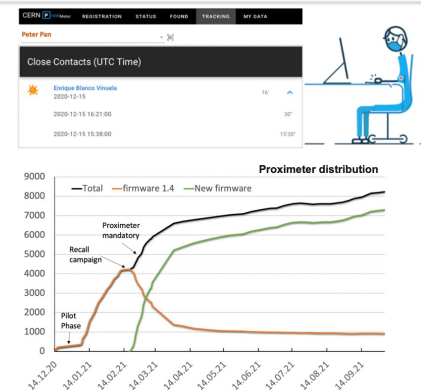
DB Asset management

Assets
Tag ID **Device ID**

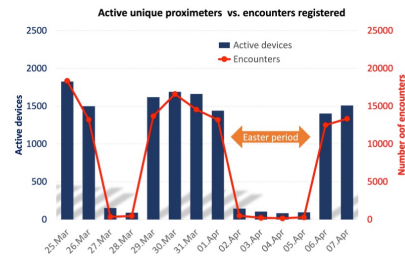
DB Association

Distribution
Device ID **Person ID**

Proximeter Portal & Stats



Only in case of a positive case the **medical service** have an **instant access** of the encounters (previous 14 days) through the **Proximeter Portal** software suite and strict monitored protocol.
(~ 10 close contact extractions per week in average)



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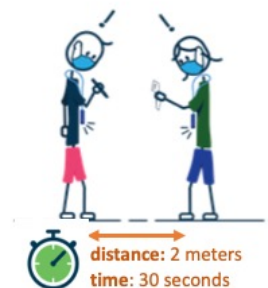
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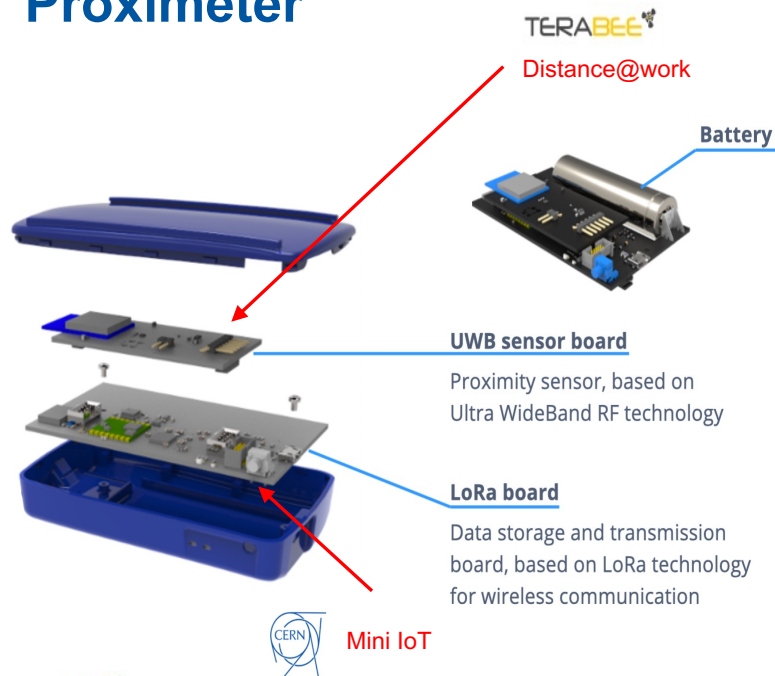
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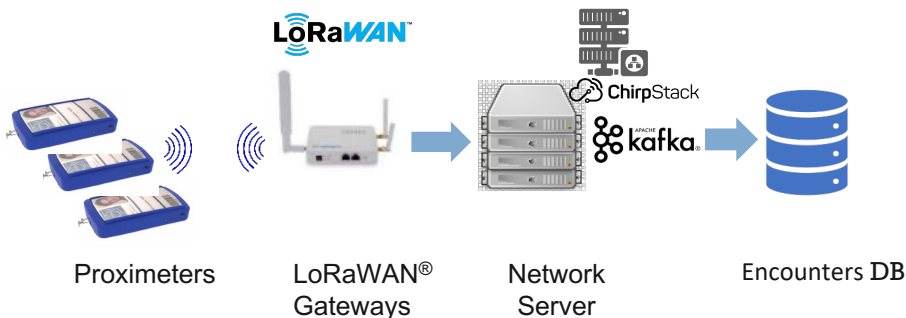
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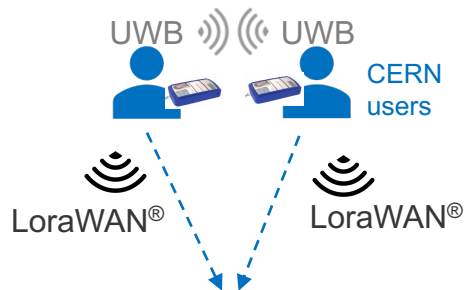
Proximeter



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Data privacy by design
Separation of databases
Pseudonymization with IDs
Encryption

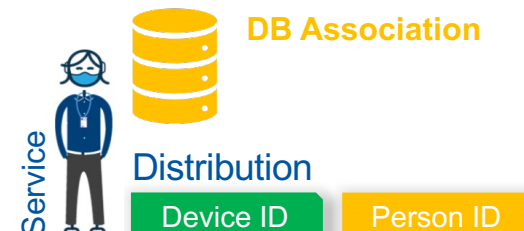
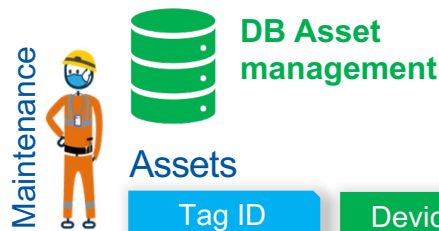


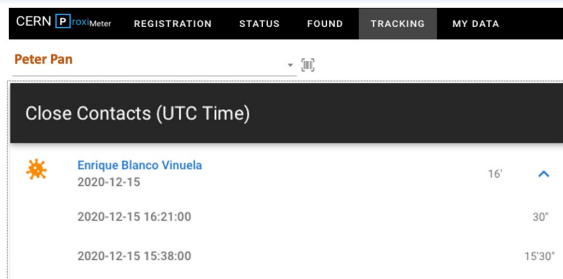
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22382	12893	3	01-MAR-21 10.51.00
53019	12893	7	01-MAR-21 10.51.00
59992	12893	2	01-MAR-21 10.58.00

Sensor TagID	0xdb32c
Device ID	20286580

Device ID	Person ID	Date
20286579	611264	17-FEB-21 21.27.41
20286580	786770	18-FEB-21 10.33.04
20286582	375641	25-FEB-21 11.54.51

The service





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