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co-botic 1900 data security



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Preface

This document describes what data the co-botic 1900 generates and saves. There will be an explanation and description of the following topics:

- Sensor data
- Server and peripheral connection
- User usage data
- Operational data
- Data being sent
- Data storage
- Server structure and data flow



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Context

Preface	2
1. Sensor data	4
2. Network connection structure	6
3. Server structure	7



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1. Sensor data

The co-botic 1900 has 3 sensors;

- 1x 2D lidar, for navigation purposes
- 1x 2D line sensor, for obstacle/cable avoidance
- 1x laser distance sensor, for driving next to a wall

The purpose of generating this data is to navigate around in the mapped area. There are no camera based sensors which are able to generate and collect photo or video. Also there are no microphones capable of generating and saving sound data.

The co-botic 1900 locally stores total cleaning time, total areas cleaned, saved maps and consumables lifespan. The un-uploaded data will be cleared when powered off, when the battery is swapped or at the start of a new task.

Below there are is an example of data which is generated by the 2D lidar (fig. 1) for navigation purposes and an example of the principle of the 2D line sensor (fig. 2)

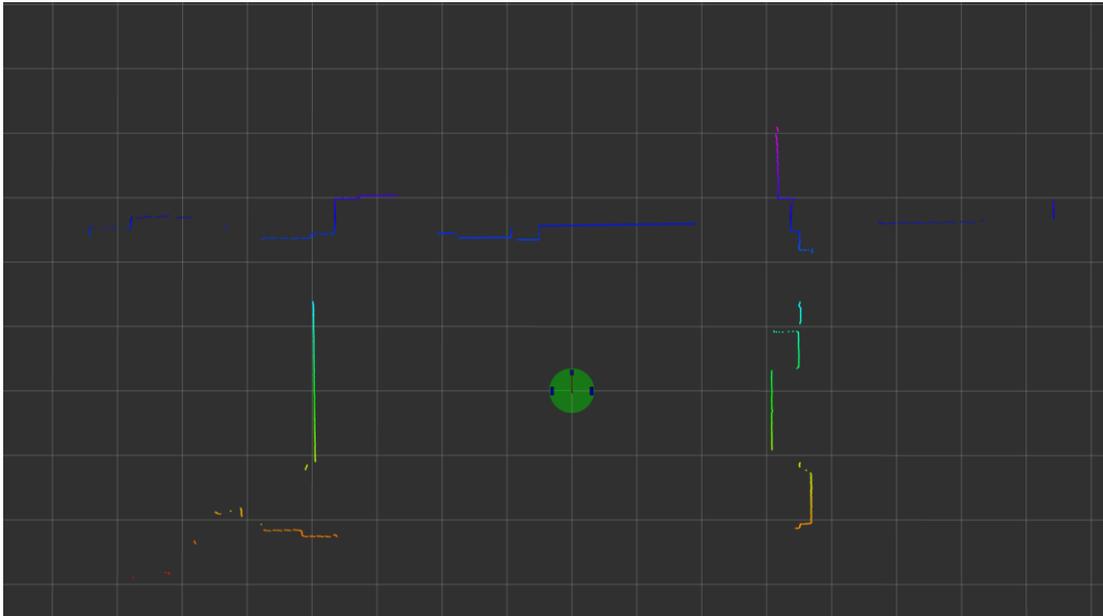


fig. 1 2D Lidar sensor data example



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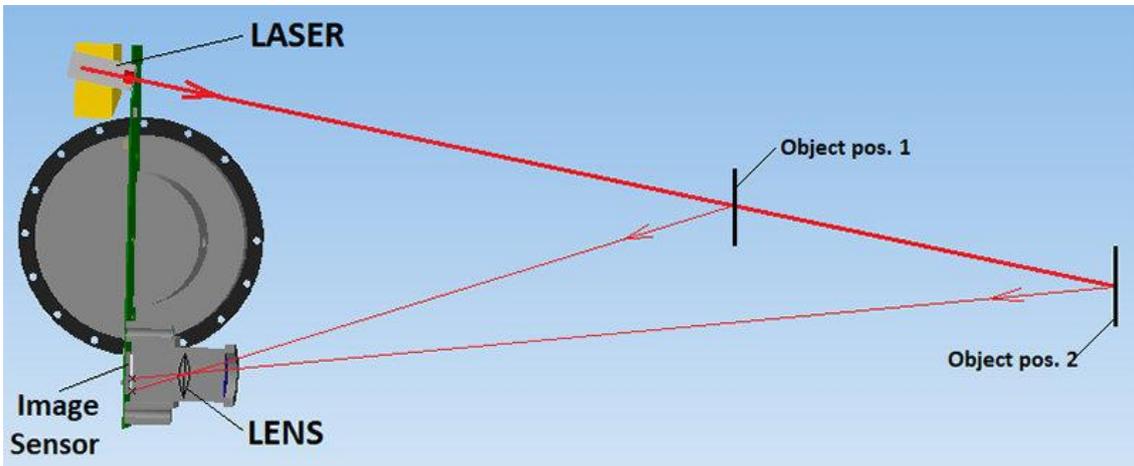


fig. 2. 2D line detection sensor



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2. Network connection structure

For map commissioning, cleaning records and notifications there is a network connection required from both the co-botic 1900 and the operator phone. Please be aware that the co-botic 1900 does not require a sim card or wifi network to function, only for map commissioning, cleaning reports and receiving notifications. If there is no network connection there will be no notifications to the phone, cleaning records cannot be seen from the phone and no real-time data can be seen from the unit. This also goes for the Fleet management system features.

There is also no direct network link between the operator phone and the co-botic 1900, only when first setting up a network. After that there will be no direct link anymore. Also note that the server currently used for the co-botic 1900 is the same as the co-botic 45 and i-walk. Find in fig. 5 what the architecture is for sending data.

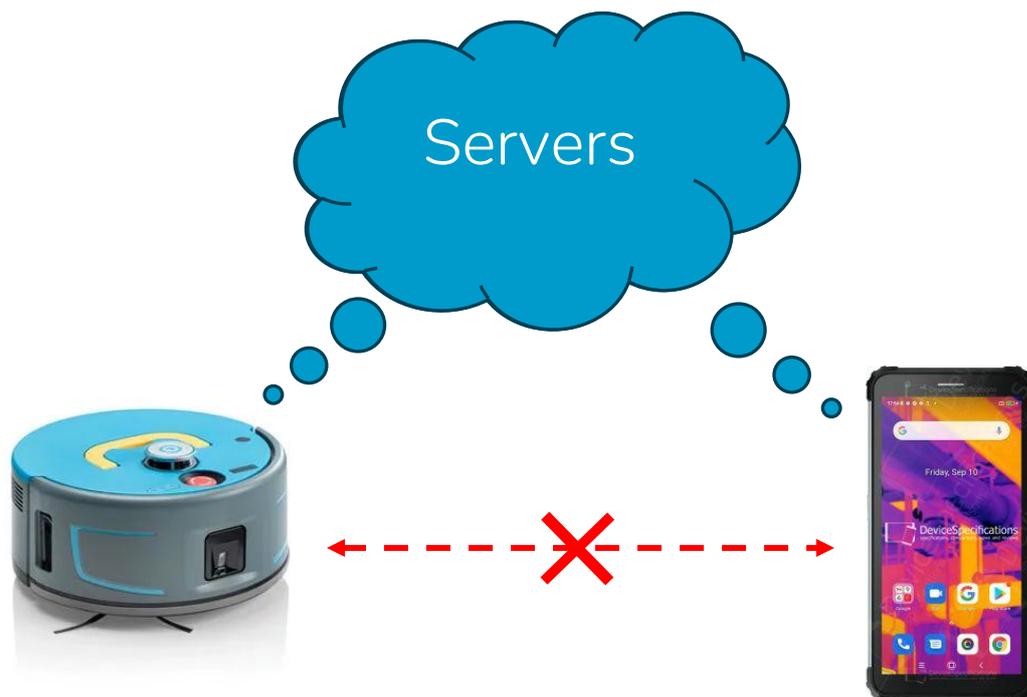


fig. 3 Data sending architecture



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3. Server structure

The co-botic 1900 makes use of both TUYA smart servers and i-team servers on Amazon Web services. Please find the structure and stored data for each server in the overview below:

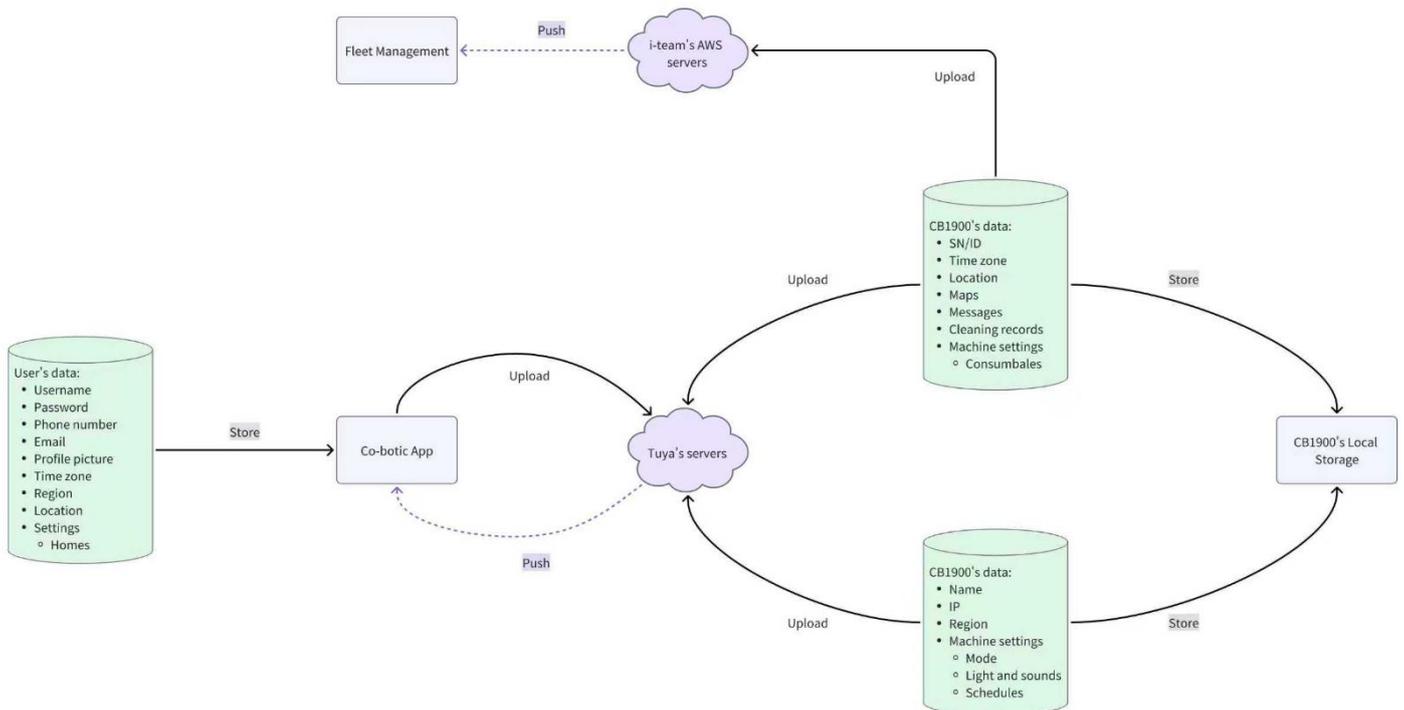


fig. 4. Data storage and flow

For normal operation on the there is a connection from the co-botic 1900 to a server. This server is from AWS (Amazon Web Services) and is located in Frankfurt, Germany. Currently there is no second server and also no server where data is stored outside of Europe. This might be subject to change if there are large amounts in other continents to improve data transmission speed, or required location safety. For more information about AWS data security, documentation, GDPR and how this is handled please see the links below:

- <https://aws.amazon.com/compliance/gdpr-center/>
- <https://aws.amazon.com/compliance/data-privacy-faq/>

For the TUYA smart servers we are referring to the GDPR whitepaper and whitepaper on information security and compliance from TUYA smart which is also available from the i-team portal or via the link below:

- <https://www.tuya.com/trustcenter>



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