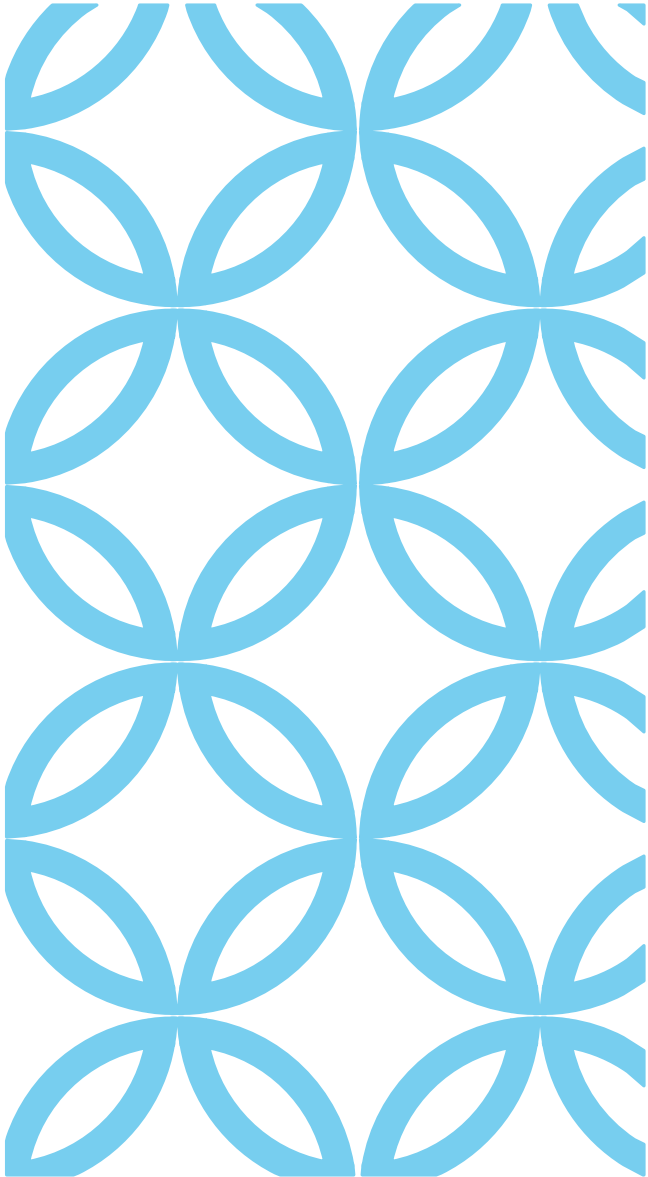


Little Sister®

Make "The Edge" the centre of your security/privacy

Stuart Mendelsohn, Peter Wäher
Lilsis AB



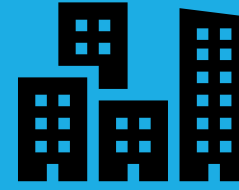
Smart
People



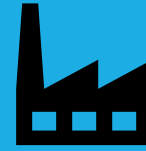
Smart
Home



Smart
Community



Smart
City



Smart
Factory



Smart Transport



Drones

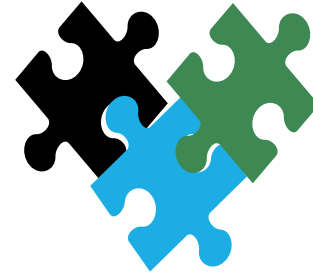


Smart
Infrastructure



USE CASES

IT'S A PLATFORM



- Low cost of ownership
- Write scripts
- APIs
- Applications
- The unique architecture supports smart contracts

Smart contracts **without** blockchain, Yay!

An alternative Internet standard framework, also used by: NATO, Cisco and WhatsApp, it's called XMPP.

We then enhance this technology and add our own distributed encrypted object database and IoT gateway, to connect machines to your applications.

You can customise our existing applications or build your own (use APIs and scripts)! You can even replace Blockchain and run smart contracts with lower power and better security!

We call our modular platform - **Little Sister**®


SO LET'S USE A MORE SECURE INTERNET PROTOCOL STACK WITH EXTRA ENCRYPTION

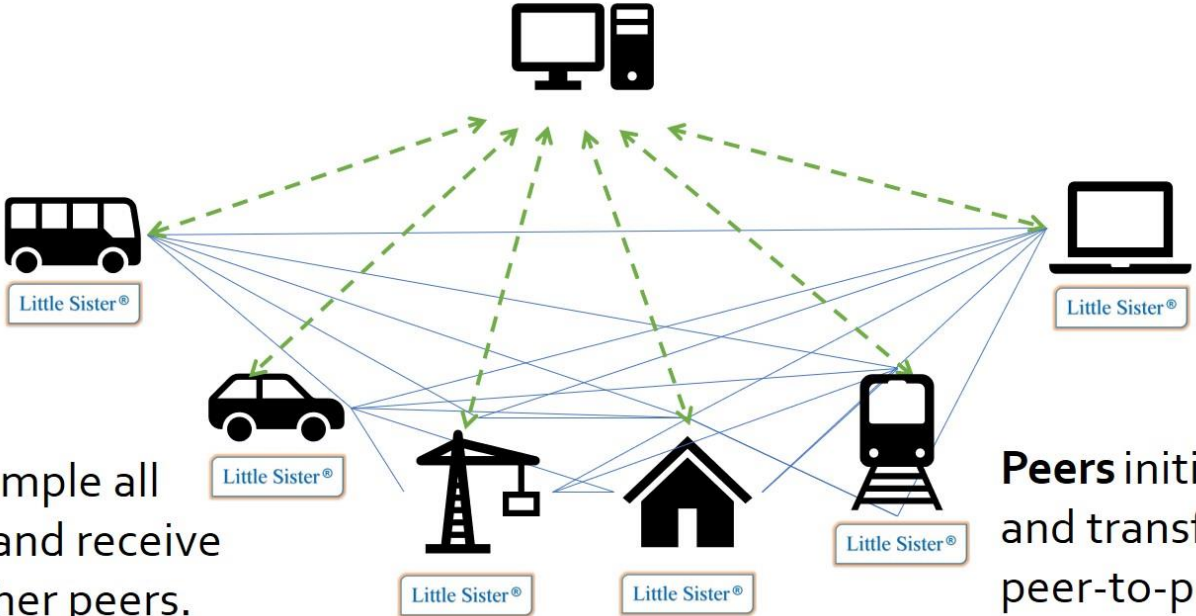
Based on XMPP and add extra encryption.

“Edge” architecture, all hardware can be “on premise”.


Encrypted database, IoT Gateway and backup included.

Privacy by Design.
Recommended for the GDPR.

Broker
Manages connections/transactions
Connections shown as: 

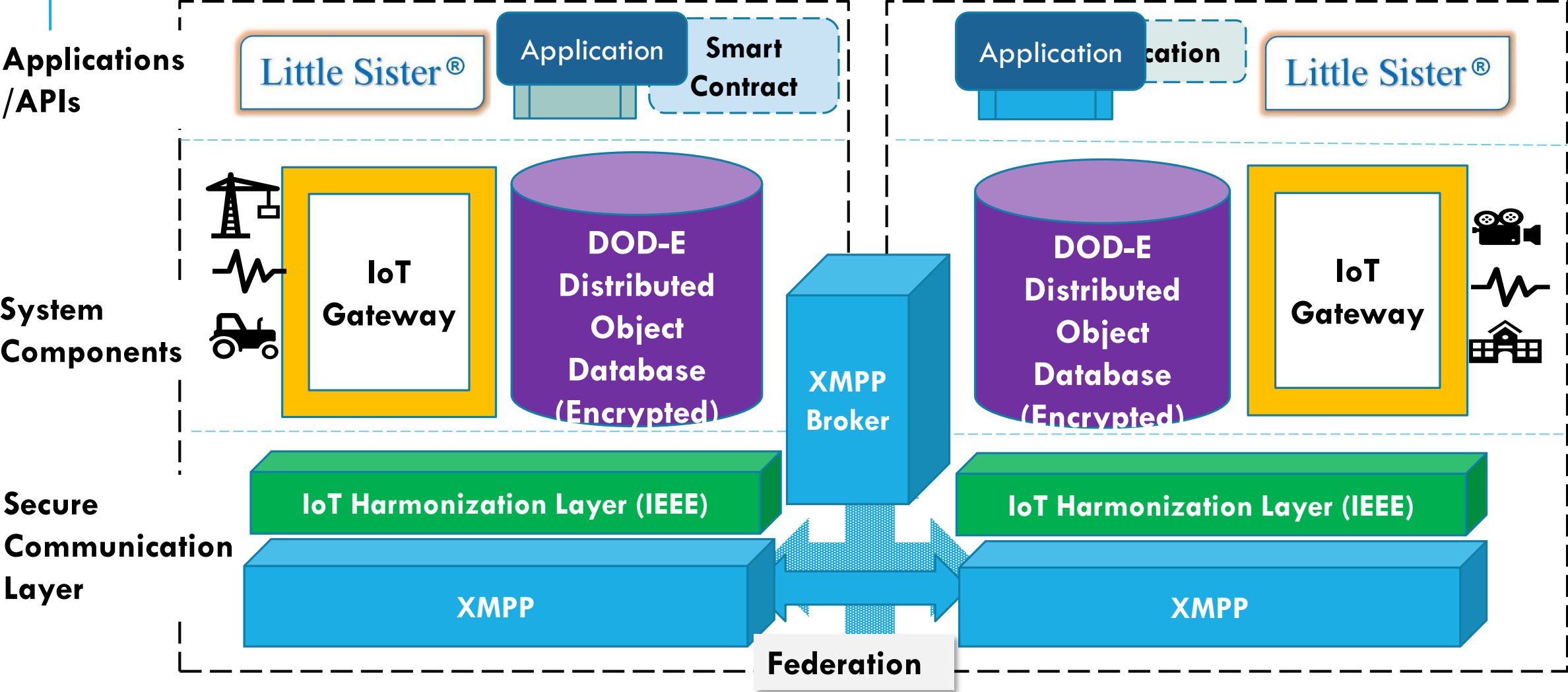


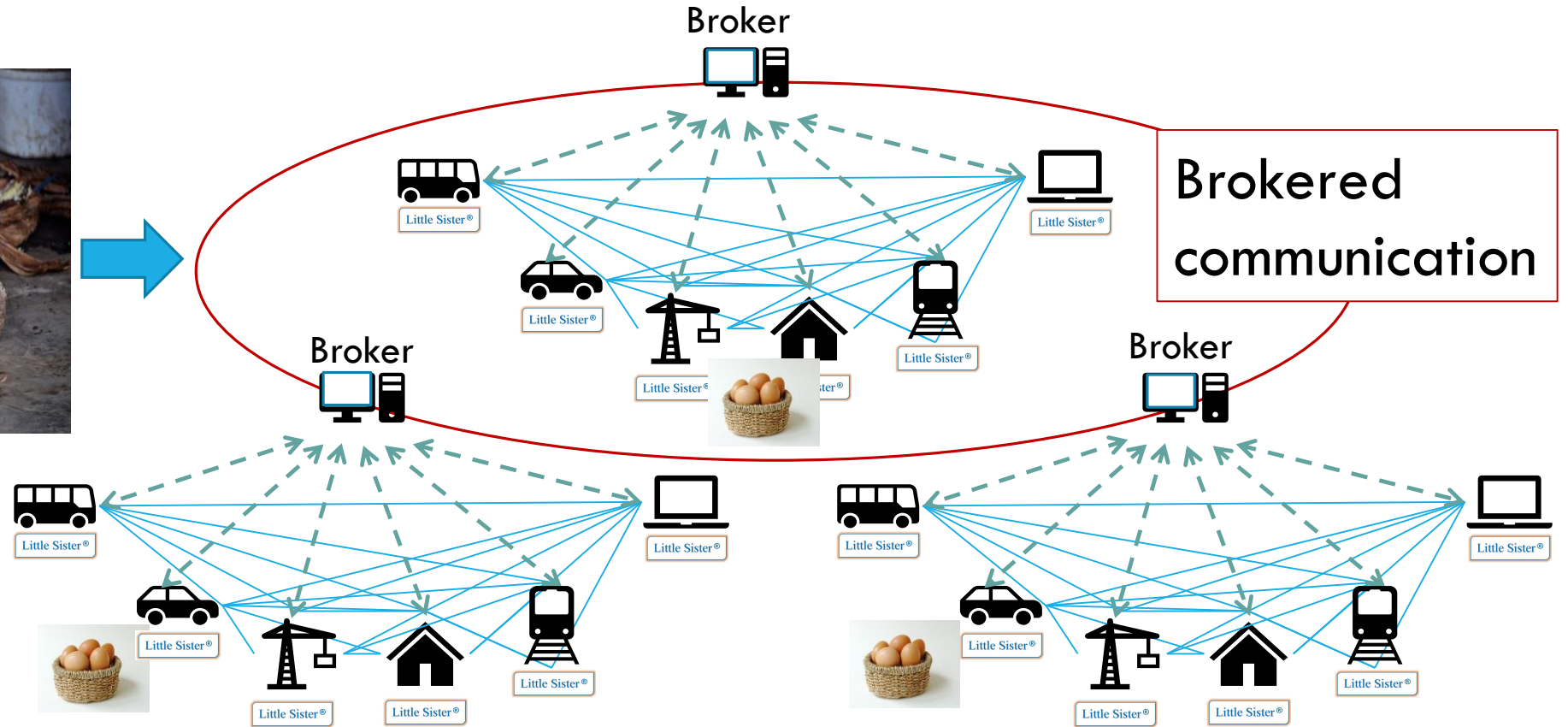
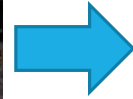
Note In this example all peers can send and receive data from all other peers. All connections encrypted.

Peers initiate connections and transfer data peer-to-peer. Data shown as: 

PEER-TO-PEER SECURE ARCHITECTURE

SYSTEM DETAIL - SHOWING TWO PEERS AND BROKER





FEDERATION - REDUCED ATTACK SURFACES,
SCALEABLE, RESILIENT

LILSIS AB AND

The logo for Little Sister, featuring the text "Little Sister" in a blue serif font with a registered trademark symbol (®) to the right. The text is enclosed in a white rounded rectangle with a thin orange border.

Little Sister®

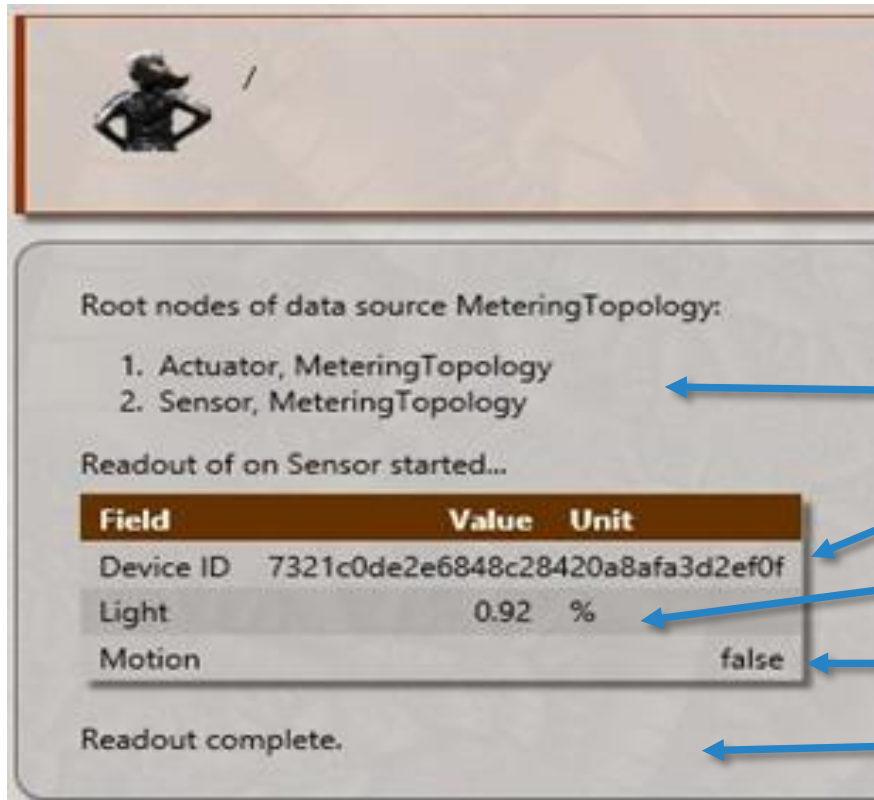
Secure Private Social Network with end-to-end encryption. Trust based (whitelist) with strong control over who sees your data. You can instantly revoke access to your data.

For Machines (IoT Gateway) and **People**. Machines can be members of a social network group. Multi-protocol support for flexibility. Modular software design, scriptable with APIs. Control your devices and provision services, using IEEE IoT Harmonization.

Browser UI for ease of customization and localization. Create your own corporate look and feel. Social network groups define access rights and privileges.

Works on low cost PC hardware (2GB compute stick tested). Full back up and restore, encrypted database included! Option to have all hardware on premise for maximum security. Low energy too!

CHATting WITH SENSORS?!... YES WE CAN!



Root nodes of data source MeteringTopology:

1. Actuator, MeteringTopology
2. Sensor, MeteringTopology

Readout of on Sensor started...

Field	Value	Unit
Device ID	7321c0de2e6848c28420a8afa3d2ef0f	
Light	0.92	%
Motion		false

Readout complete.

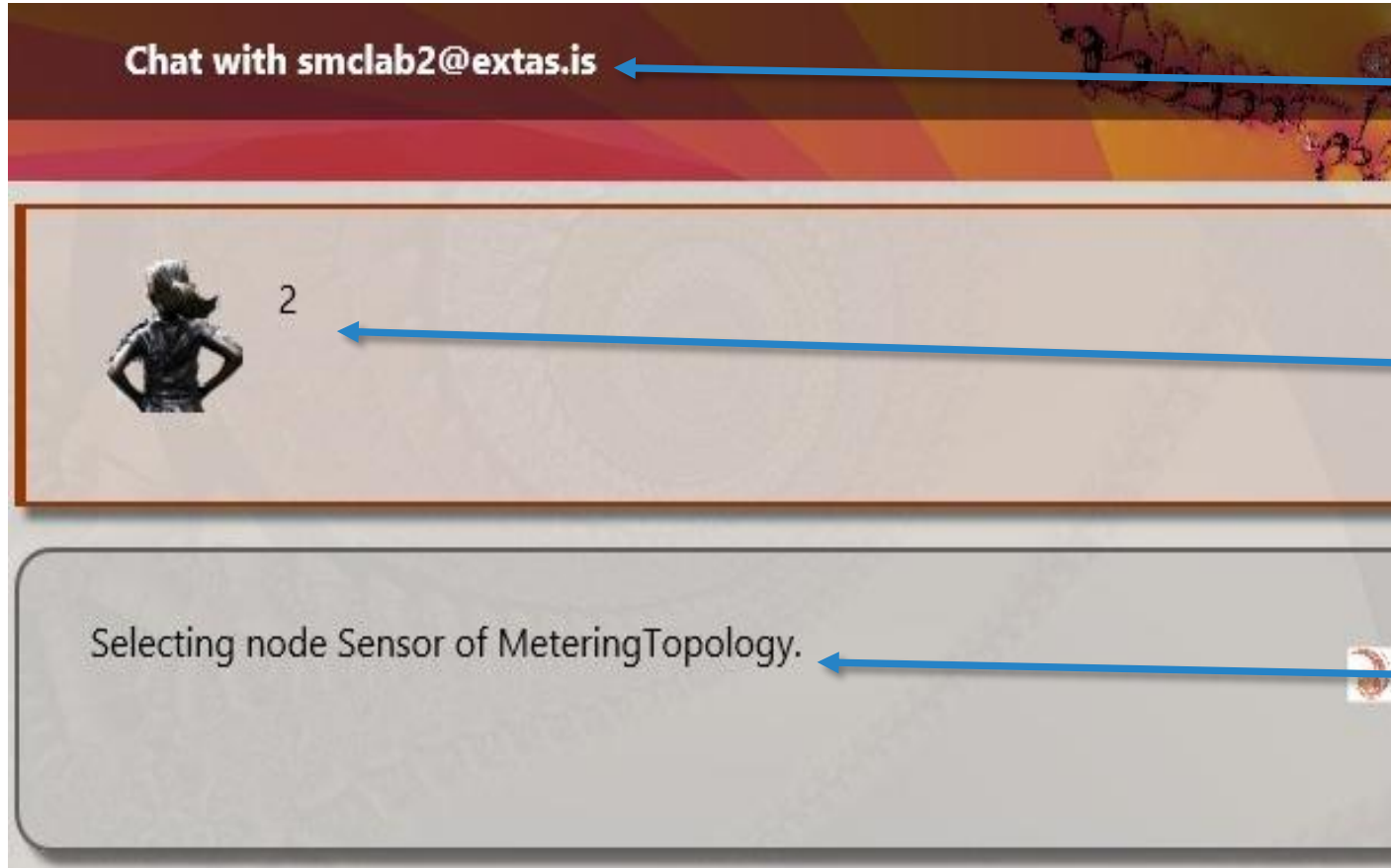
This is the Little Sister[®] client (Testsister) asking for more information about the node it is chatting with (by typing /).

The reply

This client has two nodes:

1. actuator
2. Sensor.
3. Device ID
4. I get the readout of the light sensor (it was at night) it's 0.92%
5. It's not moved
6. Readout complete....that's all it has to display.

WHAT WAS THE NAME OF THAT CLIENT (RASPBERRY PI)?



Chatting with a raspberry pi client "smclab2"
full XMPP address is: smclab2@extas.is

I select node 2 (the sensor connected to
the Raspberry Pi) by typing "2"

smclab2 replies and acknowledges I have
selected "node sensor". As we have seen the
topology has two nodes, we select the sensor.

LET'S READ THE SENSOR IN THE DAYTIME



?

Now that I have selected node 2,
I can ask for a readout.
I just need to type “?”

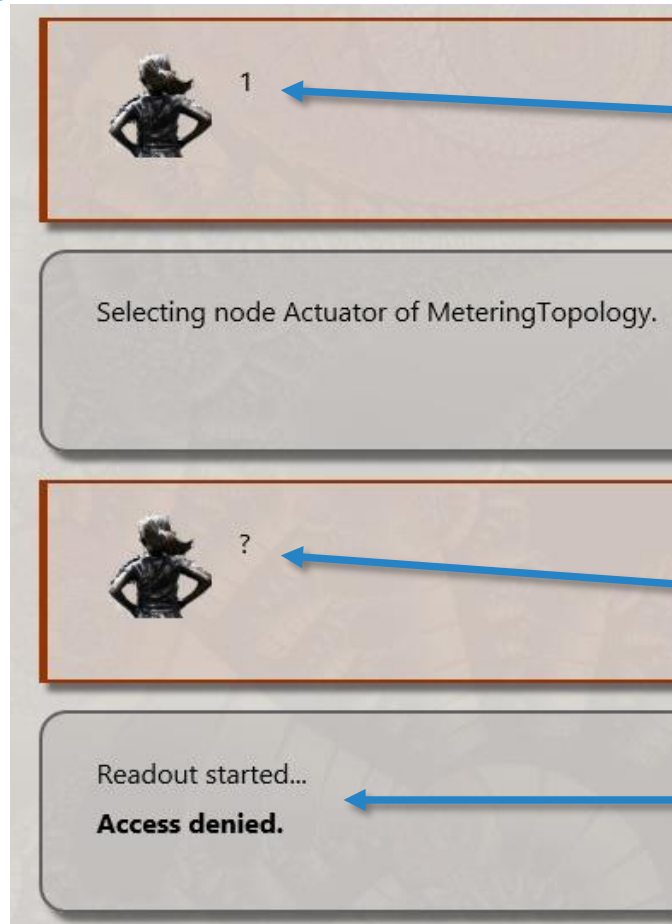
Readout started...

Field	Value	Unit
Device ID	7321c0de2e6848c28420a8afa3d2ef0f	
Light	29.16	%
Motion		false

This is the device id

The light sensor reading is now
29.16%....well it is morning in Stockholm
in November! 😊
The sensor is **not** in motion..

ACCESS DENIED! — ACTUATOR ACCESS CONTROL EXAMPLE



Now I select node 1

It's the actuator node, node 1. I have already accessed node 2, (light sensor).

I ask for a readout.
I just type “?”

Access denied – I don't have access to node 1 even though I can see it.

Access Control

Fine tuning sensor/actuator access allows you to assign access to different utility companies, for example.

OUR API

Little Sister® API Documentation

Little Sister® includes an API that can be used by external services, tools and devices to interact with Little Sister®.

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THANKS!

Little Sister®



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Peter Waher

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Little Sister® is a registered trademark of Lilis AB.

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[Press Release \(Swedish\)](#)