How RIOT-ready is industry?
Agenda

1. Hopes and Expectations
2. Industrial Reality
3. IIoT, quo vadis?
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Where do I come from?

- It all started (here) with wireless sensor networks in 2005
- 2009 to 2017: working in academia
- Enjoying open source development
- This year: joining the dark side -> back to industry
What happened meanwhile?

RFC4944
6LoWPAN
Work on WoT (CoAP) started

What does Zühlke do in IoT?

- **Business consulting**
  - We explain how technologies change the world, and how they can improve existing products and services.

- **Change Management**
  - We advice on process and teach new ways to work, especially around the product development cycle.

- **Bespoke development**
  - We are innovative across industries, and develop hard- and software products, including end-to-end IoT solutions.
What did I expect? What did I fear?

- “Industry 4.0”
- Mature tools
- The pain of open source licenses in industry
- Established software/technologies:
  - Thread
  - Zephyr
  - Mbed
- My (not so) hidden agenda: teach industry about RIOT and FOSS in IoT
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Disappointments

- First disappointment: Where are all the IoT jobs? (Rather in Berlin startups than anywhere else in Germany.)
- Where is the Internet in IoT?
- Why are smart objects not smart?
- The current IIoT seems to look more like WSN + cloud.

Talking about RIOT

“IP-connectivity? Why?”

“Isn’t an operating system too much overhead?”

“Does RIOT support platform X?”

“We don’t need an operating system.”
Talking about IoT

- SAAS
- Microsoft Azure
- Data Analytics
- Amazon Web Services
- AngularJS by Google
- Digitalization
- Windows IoT
- Bosch IoT Suite
- Deep Learning
Where are we at?

- Device/Connectivity
- Backend/Frontend Cloud
- Data analytics
  - OT/IT Integration (ERP, etc.)

IoT Plattformen:
- Microsoft, AWS, Bosch, etc.
The IoT Hype

- Companies want to IoT, but don’t know why – or what IoT actually means.
- Very different stakeholders – and different disciplines.
- One example: a company integrates IP-connectivity into their water pumps – and asks us what to use it for.
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The go-to solution

- Unified software platform
- Unified network stack
- Default configurations
- End-to-end development
What can we do to get industry RIOT-ready?

- Work together
- Write portable code – even beyond the scope of low-end IoT hardware
- Use copyleft licenses
- Use standards
Thank you! Any questions?