

# Presentation

## Steinbeis Transfer Center Embedded Design and Networking

[www.stzedn.de](http://www.stzedn.de)

### Focus “Wireless M-Bus”

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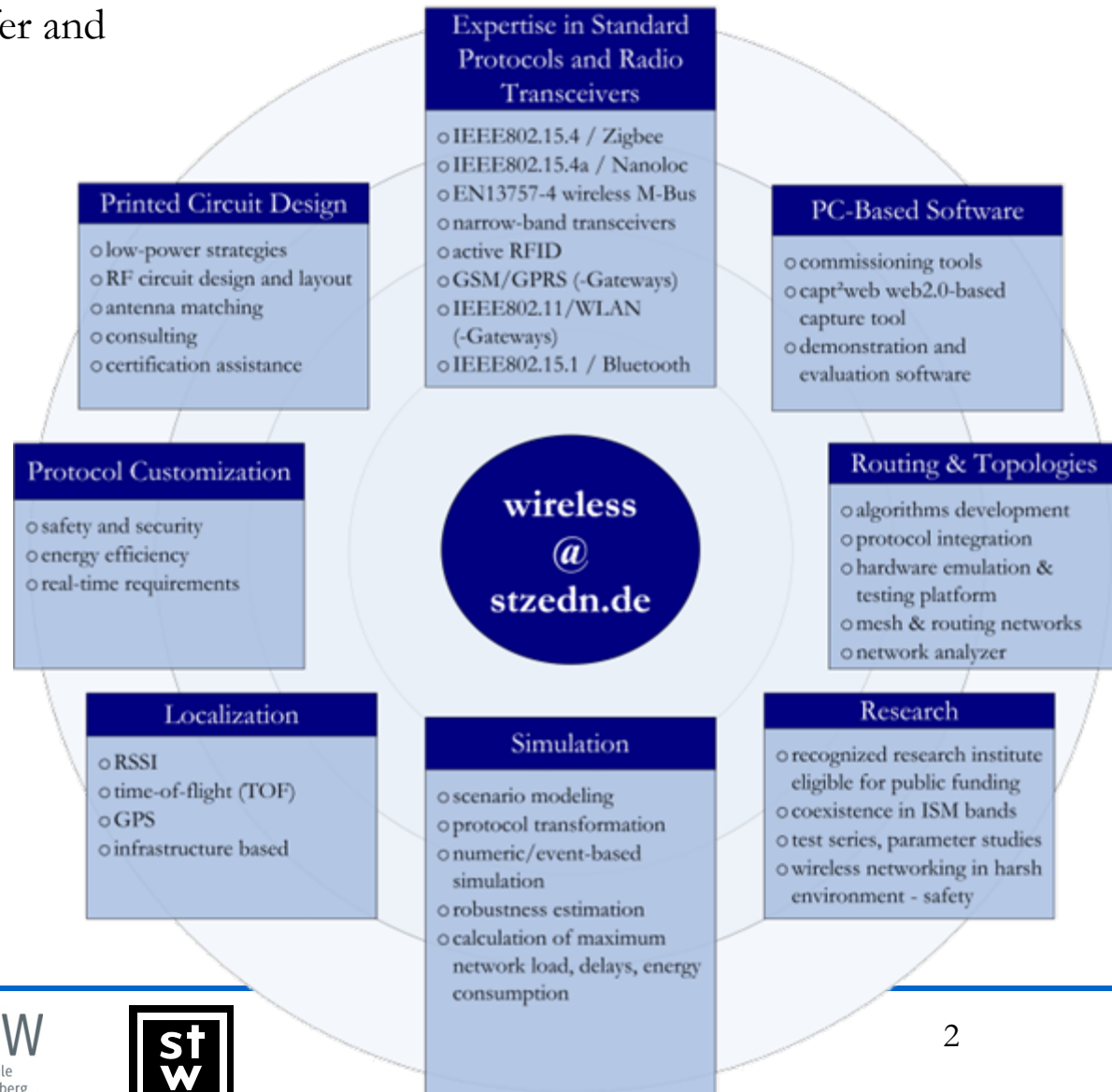
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# Steinbeis Transfer Center Embedded Design and Networking (STZEDN)

- R&D center for technology transfer and industrial projects
- founded in 2002
- completely funded by projects
  - eligible as research partners for publicly funded projects within Germany and EU
- staff: 10 professional engineers + students + freelancers
- up to now > 100 projects successfully completed
  - 1 man-day up to 8 man-years
  - typical: 6 – 12 man months
- member of TI Developer Network – Low Power RF

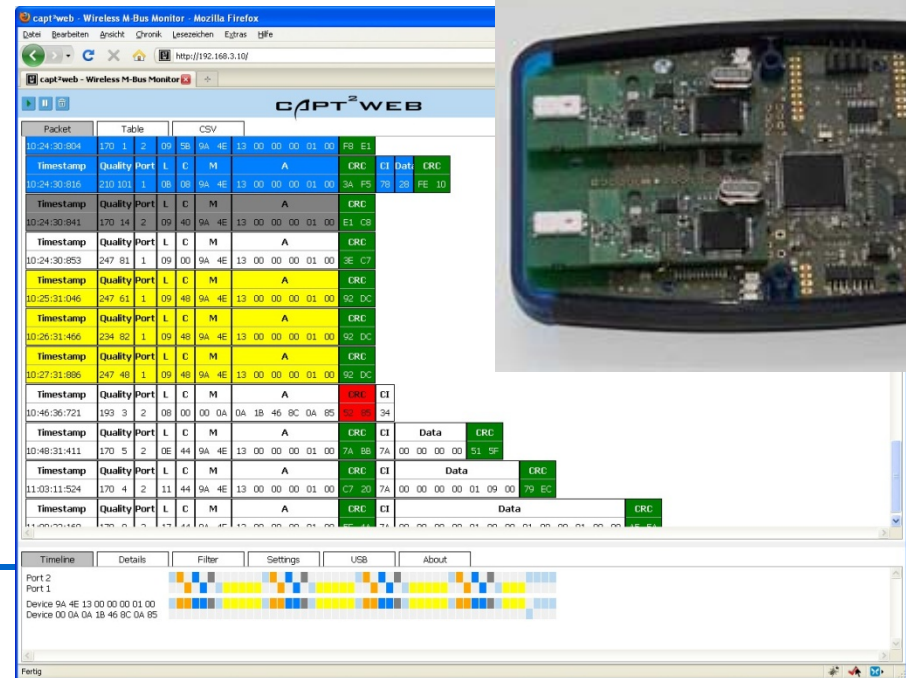
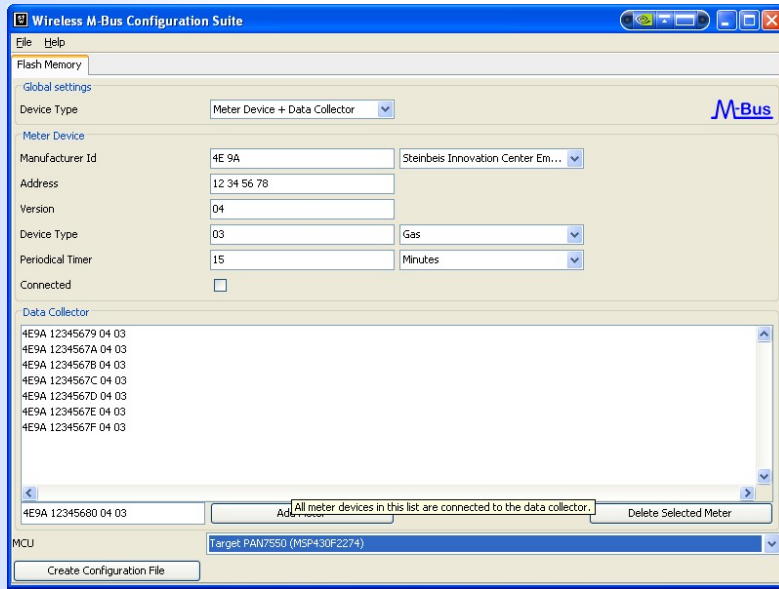


# project examples – selection of wireless projects

- modular emergency pace maker (*publicly funded*)
  - BMW ProInno (2003/2004)
- ad-hoc routing module for safe wireless (2004/5) (*industrial*)
  - algorithm & protocol development, and implementation, CC1020, network simulation, applications for BOS (firefighters)
- modular neurostimulator for (pain-)therapie (*publicly funded*)
  - safe wireless connectivity for implants
  - BMW ProInno (2005/2006)
- IEEE802.15.4-based sensor system (2006-2008) (*industrial*)
  - complete system development (Architecture, hardware, firmware, prototypes, first series), ARM7TDMI + TI CC2420
  - class room applications with high data rate and stability
- WATCH-OVER – *Vehicle-to-Vulnerable road user cooperative communication and sensing technologies to improve transport safety* (*publicly funded*)
  - hardware and firmware development for real-time localization services
  - EC, FP6-STREP, 1'2006 – 12'2008
- synchronization of distributed industrial sensor nodes (2008/2009) (*industrial*)
  - algorithm & protocol development , jitter classes 10µs/50µs/100µs, measurement and simulation using TI CC2420
- parameterization of bidirectional wireless system (2008/2009) (*industrial*)
  - consulting, network simulation using TI CC1101
- DEMAX – decentralised energy- & net management with flexible tariffs (*publicly funded*)
  - primary communication; BMWi, 12'2007 – 11'2010
- Ko-FAS – cooperative driver assistance systems (*publicly funded*)
  - BMWi (2009-2012)

# STZEDN – Wireless M-Bus – support products

- flash tool for smooth downloading in customer developments.
- Wireless M-Bus Configuration Suite
  - rich client commissioning tool
  - creation of information flash files
- **CAPT<sup>2</sup>WEB**
  - generic web2.0-based wireless M-Bus sniffer and gateway for remote monitoring and commissioning



## stzedn – contact

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