

Smart Grid concept applied to a ventilation system developed by Luefta GmbH

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Agenda

- Background – expertise of C²S
- Brief introduction into C²S network
- Which solutions can be offered
- Which partners we are looking for
- Luefta GmbH – short profile
- Export Experience in Europe and Overseas
- Which Coop Partners Luefta GmbH is searching for
- Questions and Expectations

Background – expertise of C²S

- Professor at University of Applied Science (UAS) in Landshut, Lower Bavaria till 2013
- Vice President for 8 years, responsibility in technology transfer and business development for SME
- Responsible for international university cooperations mainly in Thailand, Malaysia and Singapore
- Founder of microsystem technology network
- Founder of Technology Center Energy (TZE)
- Expert in passive house construction, consultant in energy standards
- Own passive house on ‚Energy Plus‘ Standard
- Consultant for energy efficient actions and procedures in small communities

Brief introduction into C²S network

- Technology Center Energy (TZE) offers services and consultancy

Topics

- Energy storage
- Net integration



- Decentralized energy systems
- Energy efficiency



With kind permission of TZE

- Services, consultancy
- Education, trainings

Brief introduction into C²S network

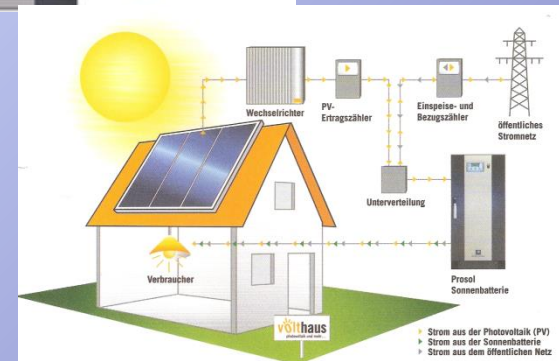
- Network partners at other Universities of Applied Sciences (UAS) in Bavaria
 - Green Building
 - Energy and Resources
 - Smart Grid
 - Solar Energy Systems
- Thailand
 - Recycling Engineering in Chonburi
 - KMUT Tonburi
- Malaysia
 - UniKL

Which solutions can be offered

- Technology Center Energy (TZE)
 - electric storage system, high competence in Li-technology
 - chemical storage systems (power-to-gas)
 - distributed energy management
 - net and system integration
 - smart grids
 - economic evaluation



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Which solutions can be offered

- Energy efficient systems in homes and small communities

Year of construction 2013
Energy Class KfW40
Passive House Standard



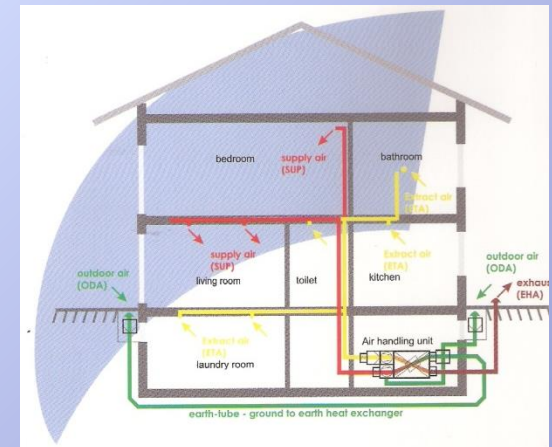
Electric and thermal storages

Which partners we are looking for

- Local partner such as
 - General contractors
 - Supplier for autonomous and hybrid energy efficient systems
 - IT developer for system interation and optimization
- Consultants who are familiar with market opportunities for energy efficient systems in Thailand and in AEC as well with respect to homes, small industrial buildings and small communities
- R & D partner with focus on
 - Smart grid, home management
 - IT control software to control and to optimize the operation of energy systems

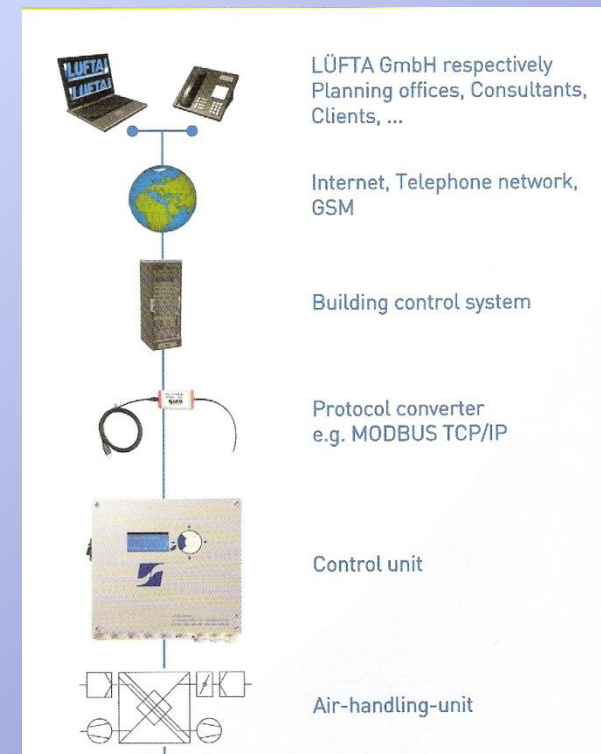
SME Luefta GmbH – short profile

- Small company in Upper Bavaria (6 employees)
- Business areas
 - Modular ventilation systems mainly for living areas with heat recovery
 - Suitable for indoor as well as outdoor installation



SME Luefta GmbH – short profile

- Business areas
 - Air flow volume up to 10.000 m³/h
 - Certified appliance for passive houses
 - Control system:
 - extrem low stand-by power consumption
 - intelligent and energy-optimized air volume control
 - can be integrated in a home management system



Export experience in Europe and Overseas

- Exported products in Europe to Spain, Greece, Austria, Belgium etc
- Exported products to Overseas: US, Korea, Malaysia
- Experience in Malaysia:
 - Entrepreneur travel participant to Bangkok and Kuala Lumpur, Visitor IGEM (International Greentech & Eco Products Exhibition & Conference in Malaysia)
 - Supplier for a R&D project at UniKL with the objective to
 - reduce the operation duration and power consumption of aircon's
 - smart control of interaction of ventilation and aircon
 - air particle reduction by special filters
 - develop a marketable product

Which Coop Partners Luefta GmbH is seaching for

- General contractors
- Market survey of intelligent ventilation systems with cooling capabilities
- Partners offering control systems capable of being integrated into home management systems

Questions and Expectations

- Competitive Situation in Thailand
- Economic Power of AEC
- Challenges at foundation of service point