

KNX DAY 2022

ENERGY ENIGMA

TECHNOLOGY
IS THE SOLUTION

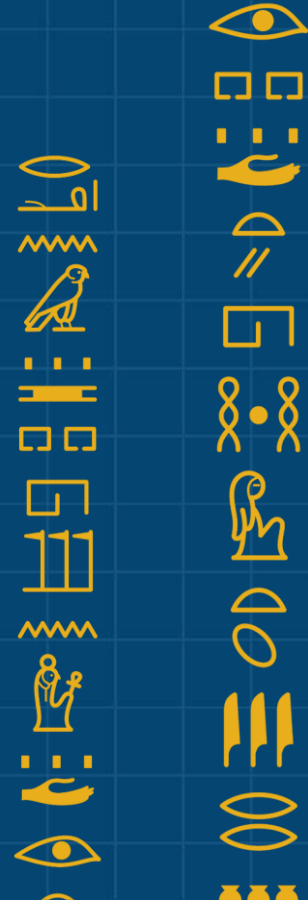
25 Novembre 2022



Energy Management

One “top” propagated solution for
an (energy efficient) world in flux!

How will KNX support this?



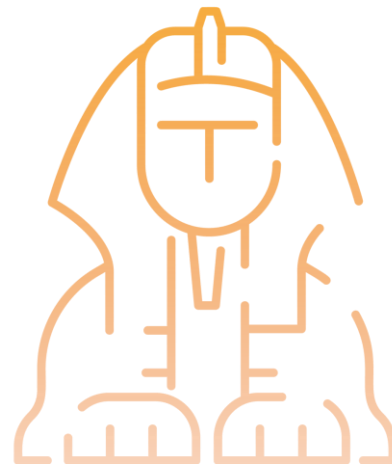
INDICE

01 | Energy Management (4)

- why, what
- where, how much

02 | KNX Solution (2)

- how?





Energy Management, why?

... lays down principles and methods to temporarily balance and shift energy consumption between producers and consumers

- Stabilizing grid/frequency
- „Blackout“ prevention,
- cost optimization



Photo ESA, Compilation Sascha Lobers



Energy Management, what?

... covers more than just the domain of “big consumers” of electrical energy (e-Mobility)





Energy, where?

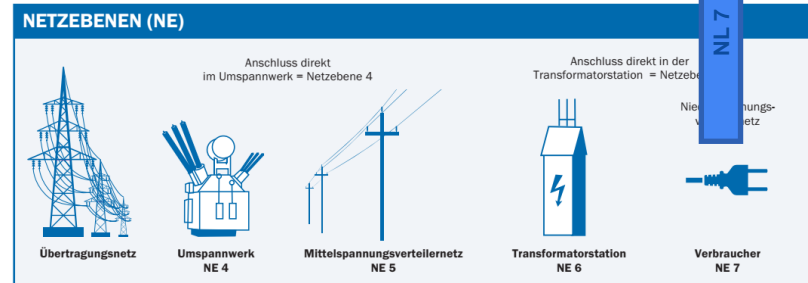
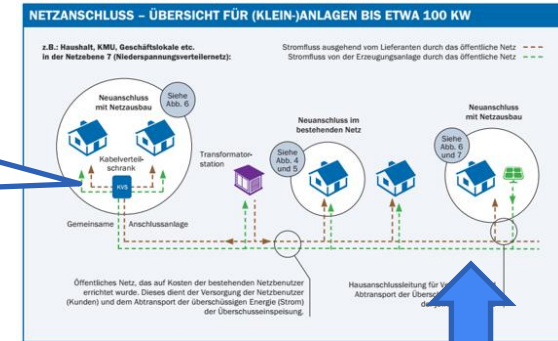
... it is not possible to supply energy in

- any desired quantity
- at every point
- at any time!

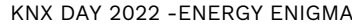
Standard Connector

- 3 x 230V * 63A
→ 44 KVA

- Network level 1: 380 kV and 220 kV (peak voltage)
- Network level 2: transformation 380 kV/220 kV → 110 kV
- Network level 3: 110 kV (high voltage)
- Network level 4: transformation 110 kV → 10 kV ... 30 kV
- Network level 5: 10 kV bis 30 kV (medium voltage)
- Network level 6: transformation 10 kV ... 30 kV → 400 V
- Network level 7: 400 V (low voltage)



Source E-Control



Batterie Capacity

- ### Charging Capacity (theoretic)

- ### Home Consumption (4 Pers.)

- According to various studies, the majority of EV charging takes place at home regardless of the segment or class of vehicle**



Chevrolet Volt

A silver Tesla Model S is parked in front of a modern building with a large glass roof. A pie chart in the top left corner shows 'Away 13%' and 'Source'.

Source¹: http://assets.fercmarkets.net/public/zmargridnews/PlugInights_U.S_FEV_CHARGING_STUDY_2013_media_copy.ppt
Source²: <http://nat.in.gov/cda/default/files/pdf/era/SummaryReport.pdf>

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Energy Mgmt., KNX support, how?

1. The Diversity Aspect

Not every EM relevant device will natively support KNX (yet 😊)!

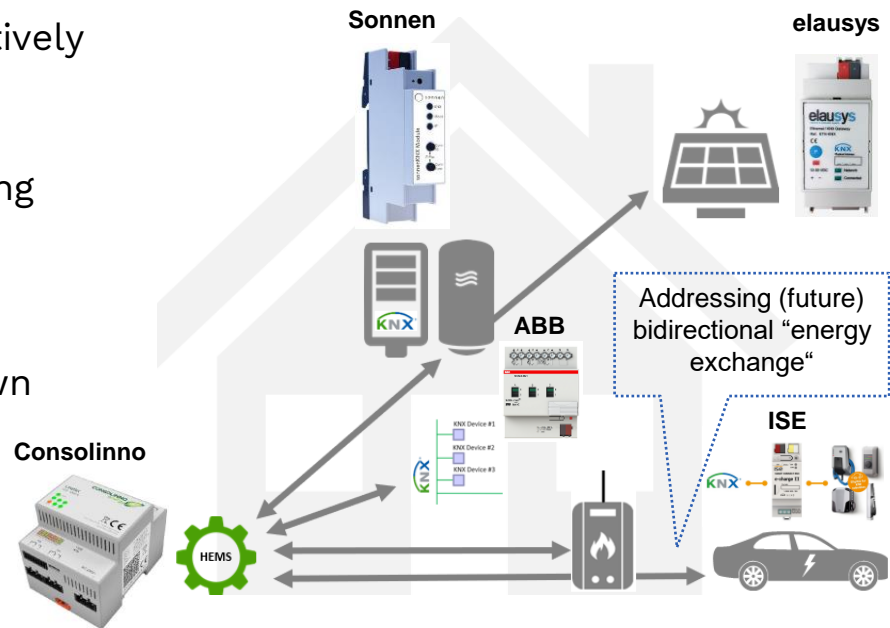
- Installer support with a vendor/application independent tooling and same/similar configuration procedures

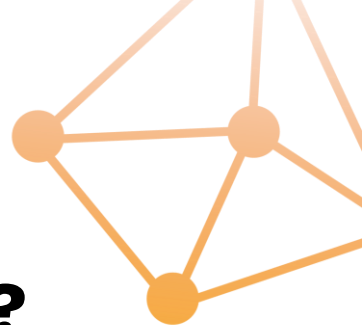


2. The Trust Aspect

Addressing the EM with already known KNX advantages!

- Device Interoperability across vendors (runtime/ configuration)
- Certification
- Device Diversity





Energy Mgmt., KNX support, how?

It still takes time to be in the mind of the “real-world” and also in the installers practice, but with KNX it will work. Moreover, KNX is also actively working on it!

- EN 50491-12-2 (home and building EM services)
✓ published (02/2022)
- ISO 15118 – 20 (bidirectional charging, vehicle to grid communication)
✓ published (04/2022)



**GRAZIE PER
L'ATTENZIONE
(THANKS)!**



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2022**

