Visit to Hvaler

Challenges DSO

- load & load variation
  - household to adapt
  - plans for control
  - list of statistics
- variation of supply
  - daily / weekly
  - seasonal
- grid stability (3 printout type)
  - Phase measurements ($SOH_{\varphi \pm}$)
  - voltage:

solar
wind
others?

security & privacy

Meeting 7Aug2019

Believe = 0.53 × 0.53 × 0.4 ~ 0.11 (out

	U				0.5	0.5		
Dec	0	0	1	1	0.5	0.5	1	0
Kons	0	1	0	1	1	0	0.5	0.5

↳ Believe

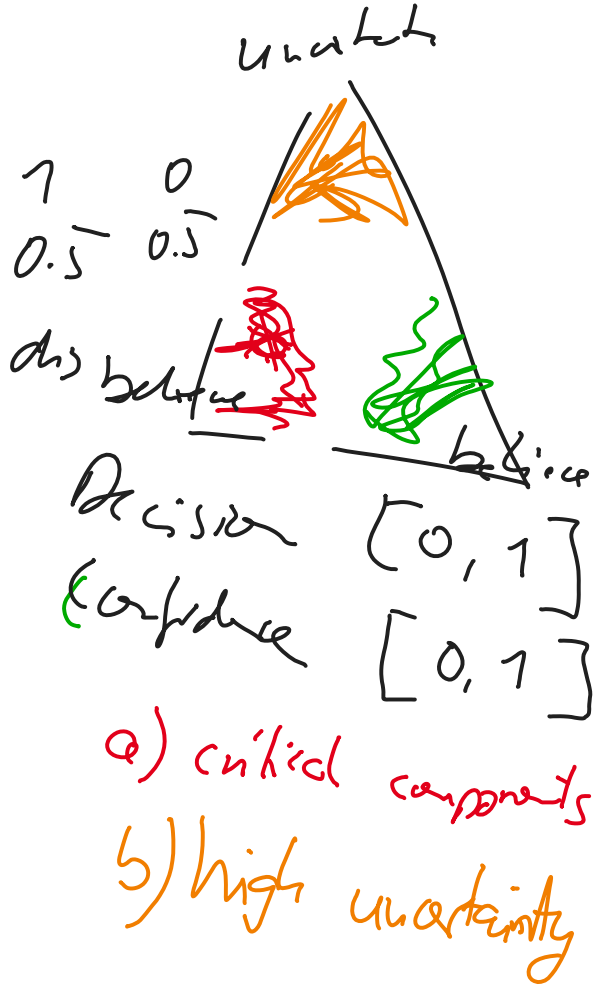
Plausibility

2. Rec(0.3 0.8

3. Three parameters

Argument types - Examples
- Alternative (A), e.g. "system is secure, if risk analysis is performed OR complient with ISO
- Complementary (C), e.g. " weights (100,50,..) on Encryption, key length, ..."
- Necessary (all of them are necesary) - e.g. encryption is necessary
- Sufficient (SC), if all the arguments are sufficient then the system is secure, if one of them

Input:



Models

- $P_1 * P_2 + P_3$
-
- weight

how important is a ... a factor ?

example: sec "the weakest link"

→ weak security

→ low confidence

( )²

Argument types - Examples
- Alternative (A), e.g. "system is secure, if risk analysis is performed OR complient with ISO
- Complementary (C), e.g. " weights (100,50,..) on Encryption, key length, ..."
- Necessary (all of them are necesary) - e.g. encryption is necessary
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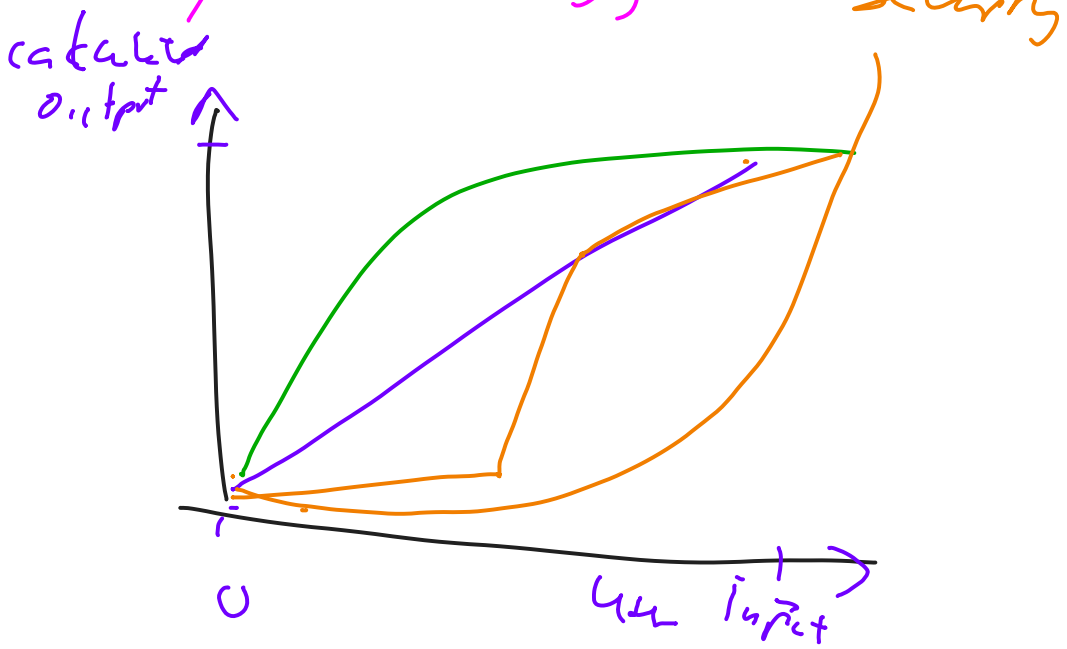
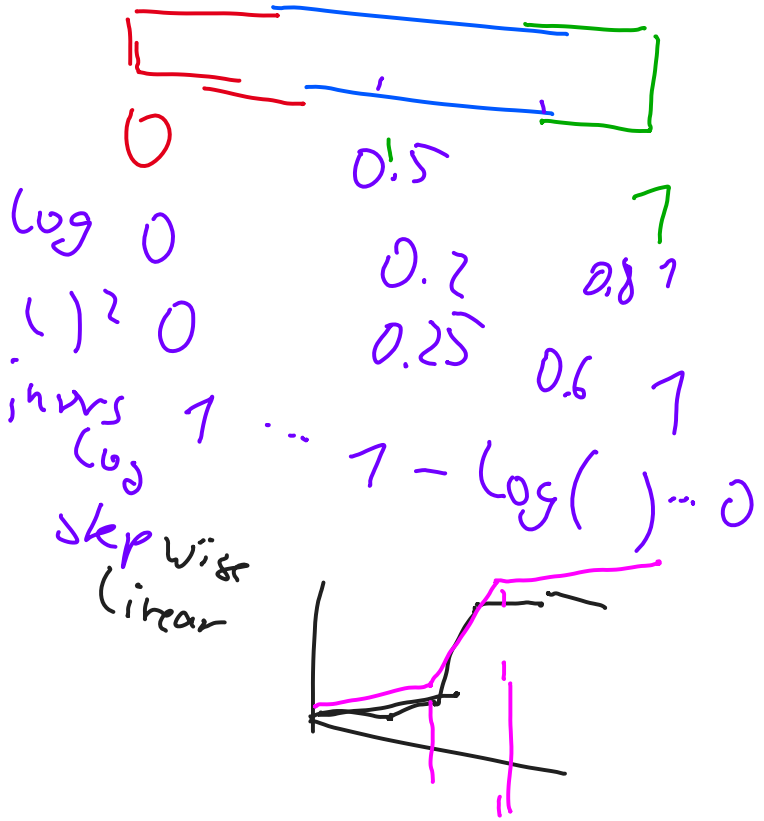
1. Find out how NORSTA works

2. Critics to NORSTA < Linear Quadratic ?

3. your suggestion





Meeting 2Jul2019

Presentation:
Bottom line: title - author - page number

Dempster Shafer -> EXAMPLE: trust my smart meter

Mapping Decision and Confidence -> Example (Numbers)

Decision = Believe/Confidence

Typo NSC -ar u gument

Argument types - Examples
- Alternative (A), e.g. "system is secure, if risk analysis is performed OR complient with ISO xxxx standard"
- Complementary (C), e.g. " weights (100,50,..) on Encryption, key length, ..."
- Necessary (all of them are necesary) - e.g. encryption is necessary
- Sufficient (SC), if all the arguments are sufficient then the system is secure, if one of them

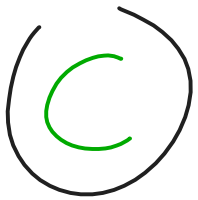
NOR-STA - add one column with example

Template can be provide:
highlight only the most important -> add: aedqutely evaluated
2. step . step decomposed
3. step

NSC Aggregation - example with numbers

70% 70% 70% 30%

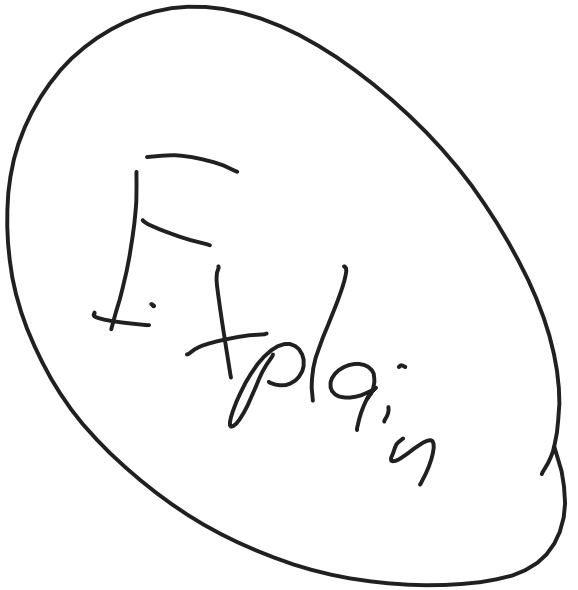
Bel(c) = Bel(w) · Bel(a) (b) (c)



$$1 \times \frac{0.7 + 0.7 + 0.7}{3} \approx 0.3$$

Uncertainty = adds up

Examplify: Argument #1 Subsystem #2



Next steps

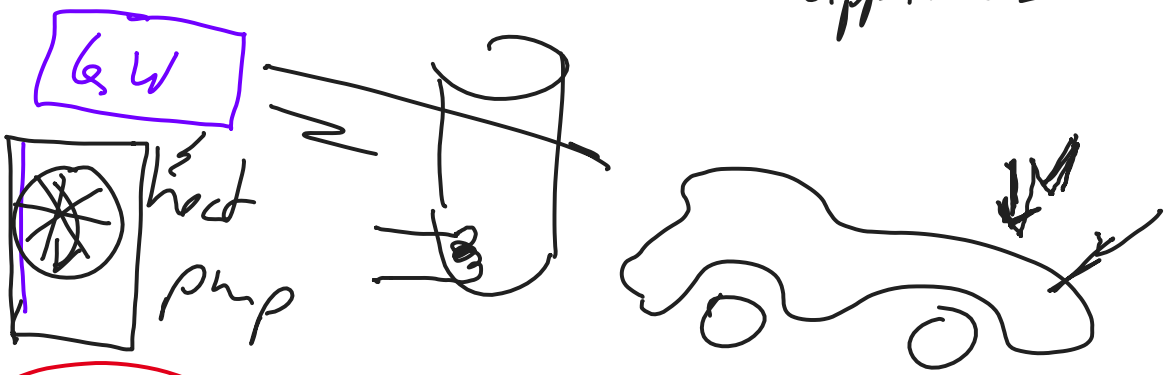
eSmart. Gbification

Today: compliance

Tomorrow: security classes

Class A: configure
Class B: health data
control blocking
C: read

Future – stable & net
– "control" Smart Home appliances



Secure & privacy aware

Methodology
– evaluate
– create

Meeting ... 2018

A Enhanced ? Security (Novel) Classification System apply

More resilient of ... for IoT Systems (conf.

Security Classes Methodology for Security Classifi

Critical infrastructures applied for Smart Grids

attack-centric resilient 2 critical Journal

Designing Security- and privacy enhanced

III Security II classes Smart Grid

IoT Risk Analysis I are defined Spectrum

systems, applied for smart grids

Cons ✓ abstract title

Journal ✓ title

IEEE Spectrum

A) Design

B) Analysis

Design ✓ GI

Risk analysis sketching

fuzzy classification

AMI ✓ applied to ✓ Smart Home

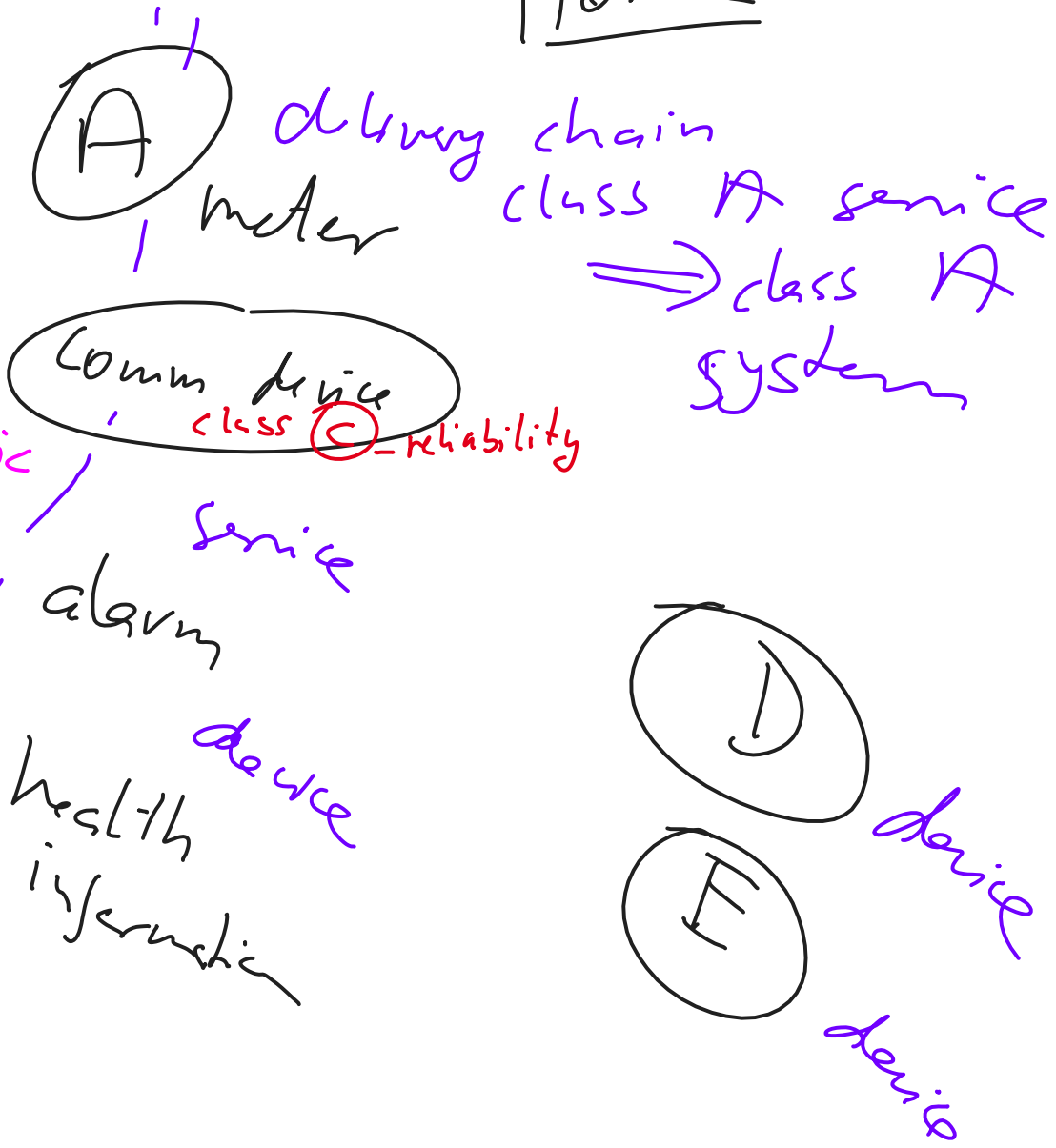
IEEE Spectrum Design

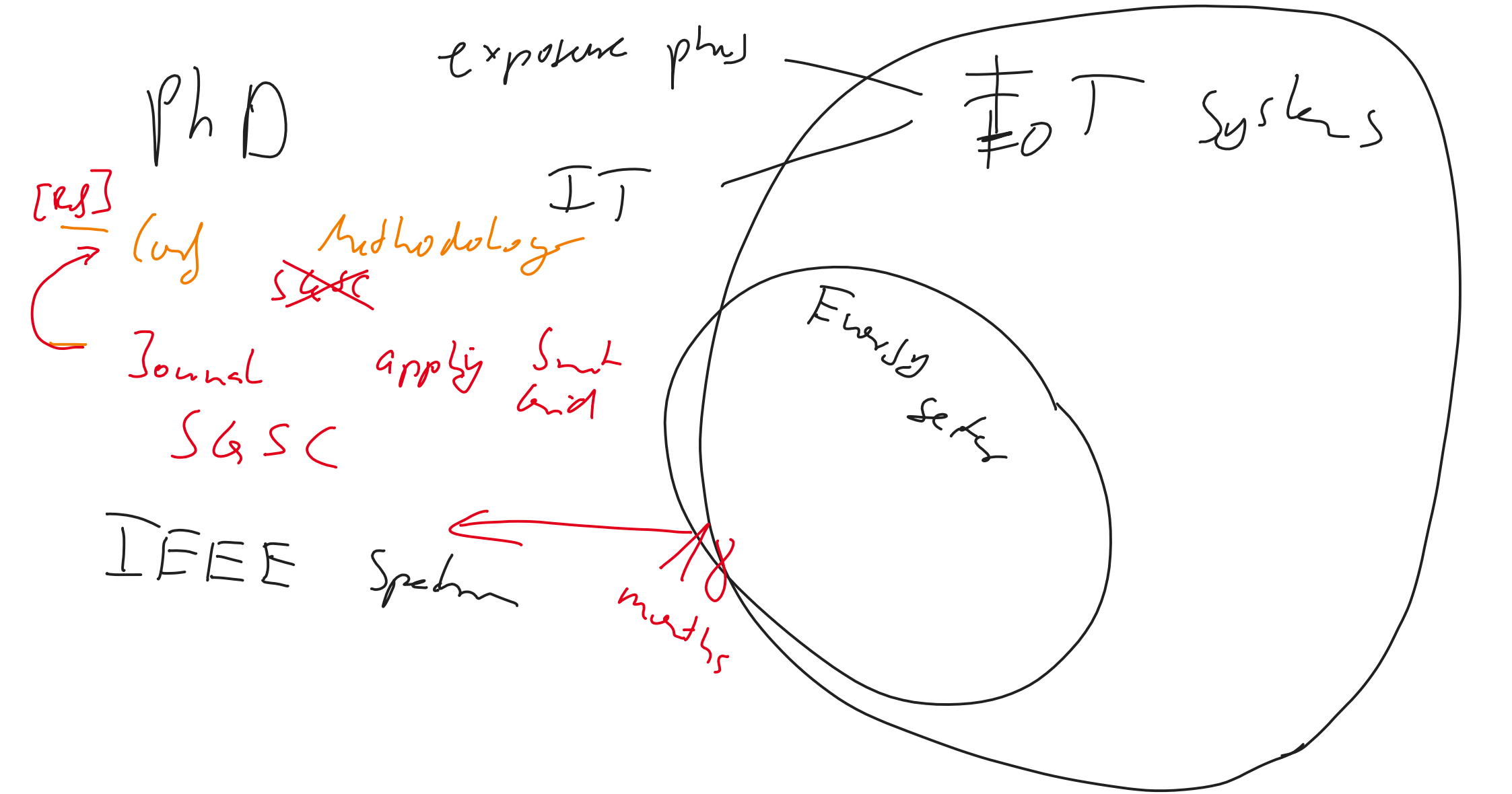
Home

new: (attack-centric)

↳ security class

A system can have subsystems. In smart home overall have communication devices, alarms and other systems. consider during design.



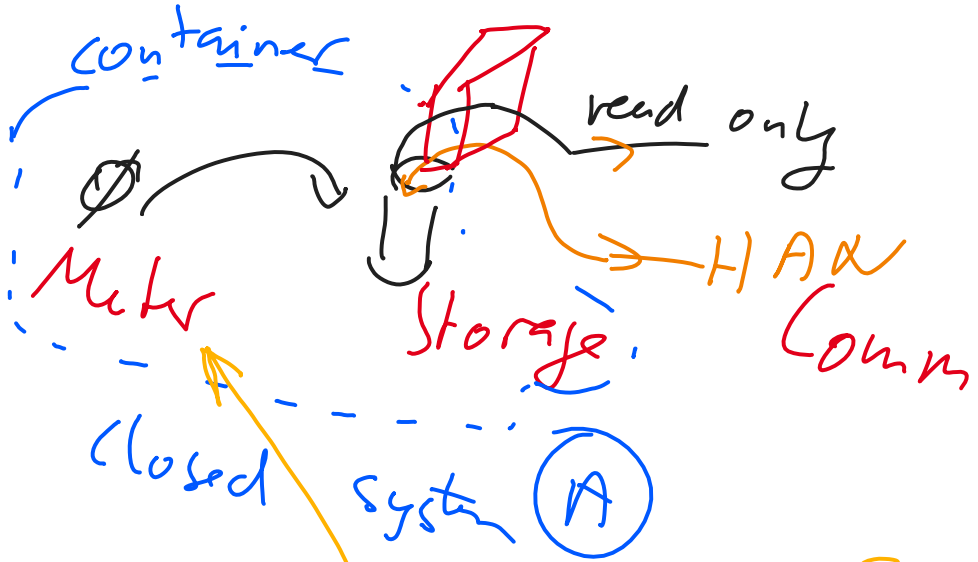

PhD
exposure phase
IT
IoT Systems
[RS]
Conf
Methodology
SG SC
Journal
apply Smart Grid
SG SC
Energy sector
IEEE Spectrum
Mentors

Smart Meter

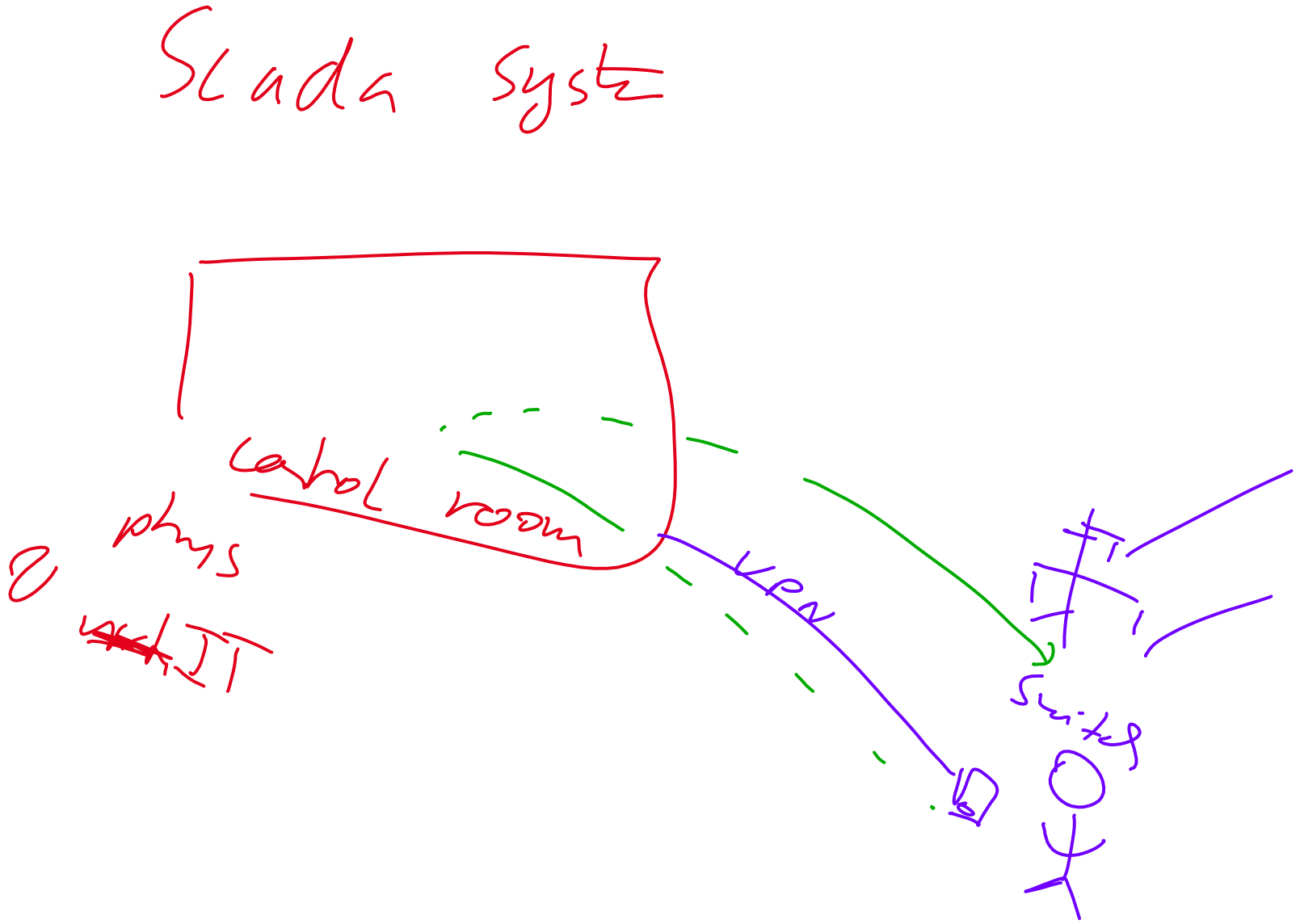
IoT lifecycle

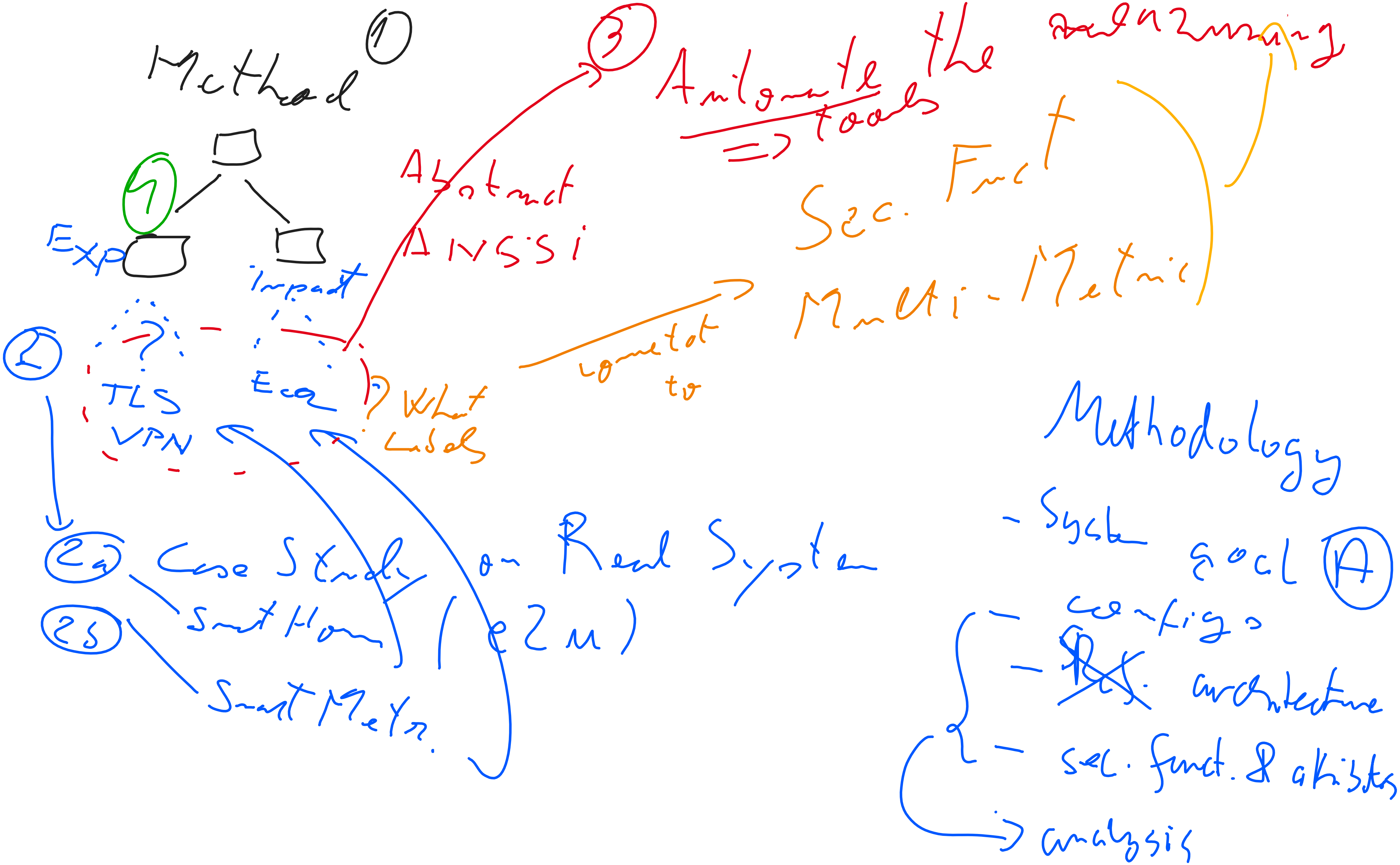
- design
- impl.
- installation
- operation
- maintenance
- destroy
  decommissioning

(emergency/attack)



SW update
configuration
F


Scada Syste
control room
phys
IT
VPN
Switch


Method
1
Exp
Impact
2
TLS
VPN
What labels
Abstract
ANSSI
3
Automate the
=> tools
Sec. Funct
Multi-Metric
to
2a
Case Study on Real System
2b
Smart Home
Smart Meter.
(e2m)
Methodology
- Syst goal
A
- configs
- architecture
analysis

(5) General Tool for the Mathe...

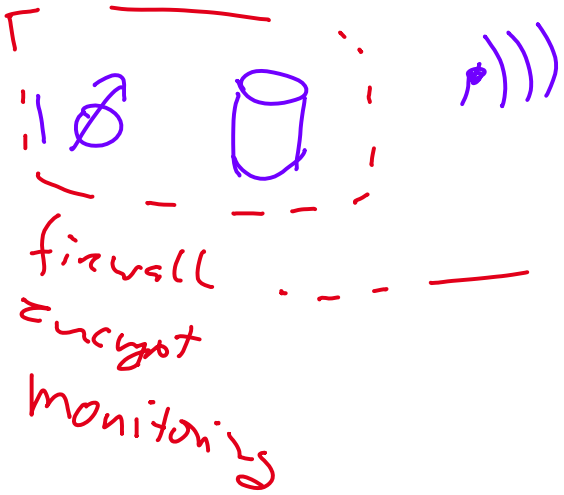
Mix NOR-STH & Rune

(6) 

IoT System Security

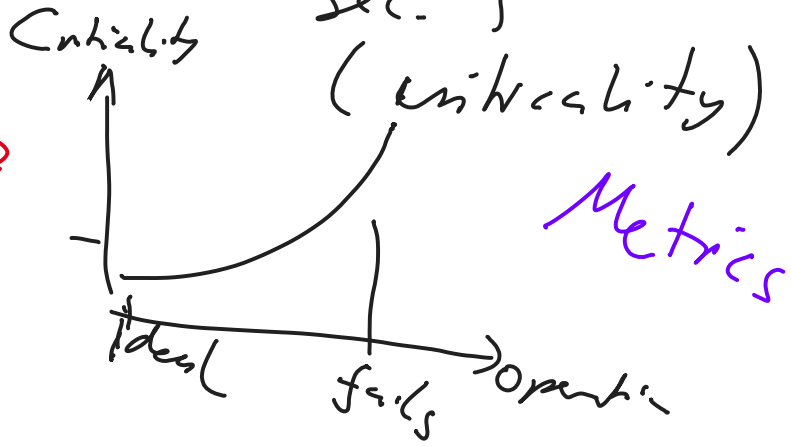
Analyst: impact + exposure (phys, IT)

System eng.



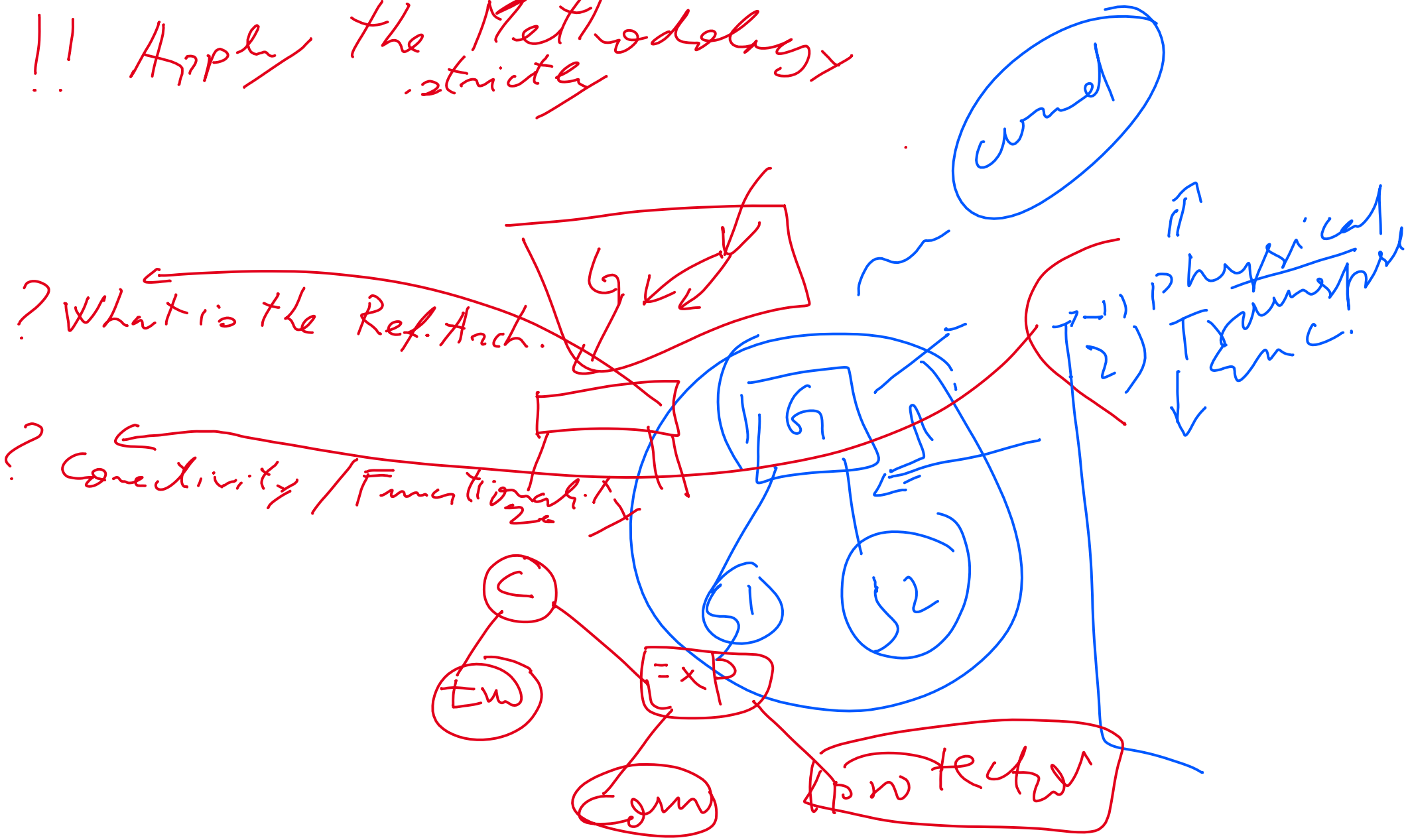
Sec. function eng.

Funct + parameters → Sec. factor (criticality)



Metrics

!! Apply the Methodology strictly



Case: Apple vulnerability

10 Jan 2018

Sect 0.6 ← Auth. < 1-factor / 2-factor

15 Mar Apple root → 0.2

Wifi;

Ethernet

USB ← auto run

Bluetooth

keyboard

System design

Screen lock

Lock-up on wlan

Sec design 0.2 ~~0.6~~