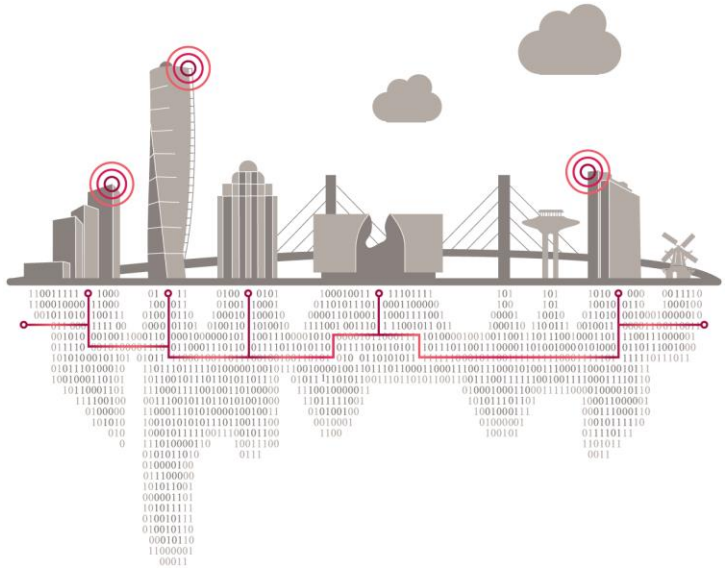
Value creation through applied AI

Baltic Smart Asset Management - Friday 26 may



Dr. Christian Johansson, CEO
+46 (0)73 530 95 02
cj@noda.se
www.noda.se

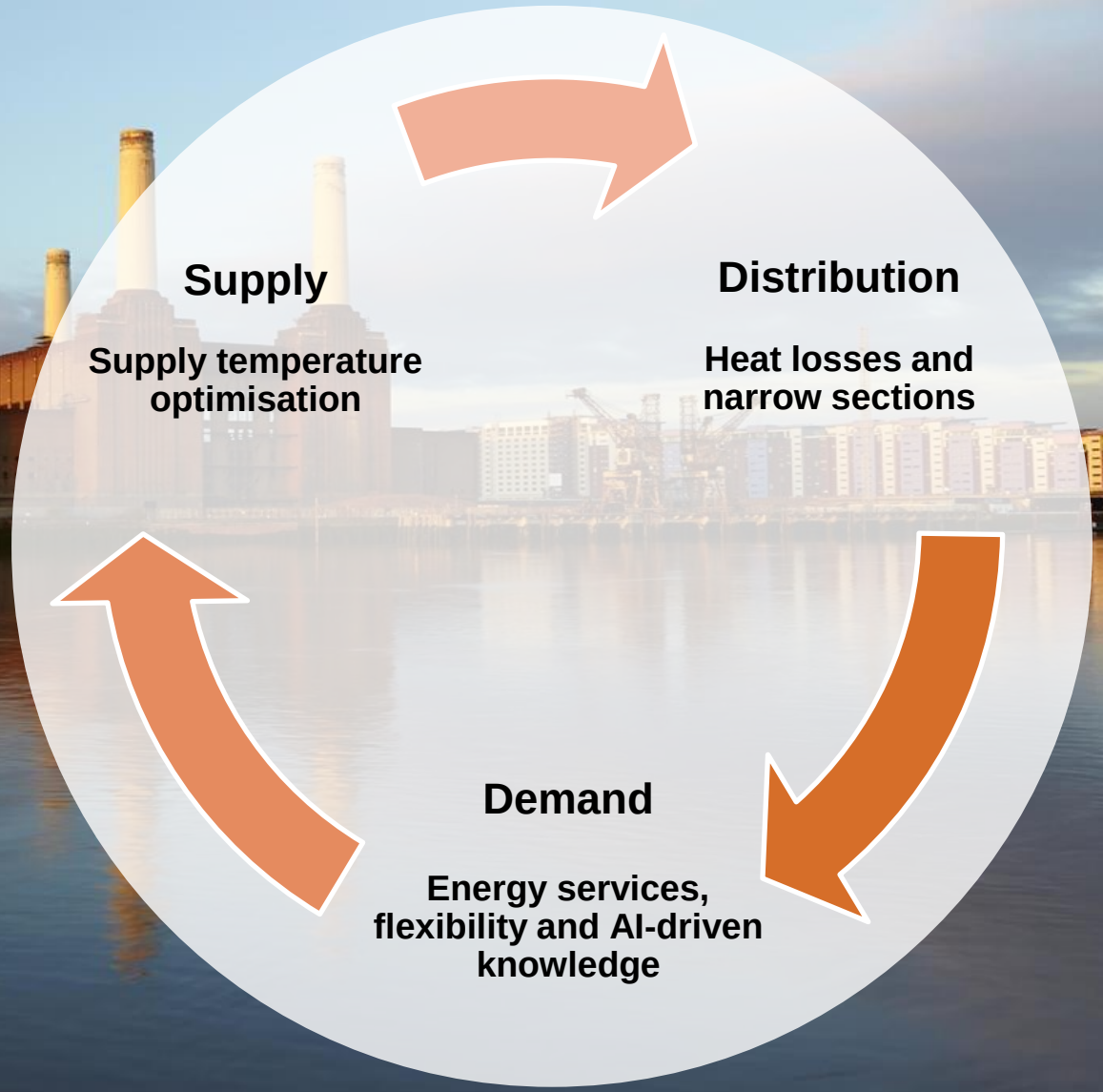
NODA
Intelligent Systems

Creating content in the digital energy ecosystem

Based in Sweden with partners globally

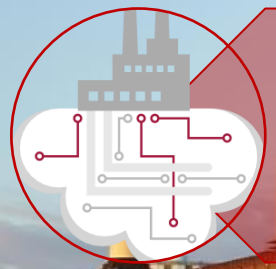
Customers in Europe, North America and Asia

NODA has 15 years of experience in digital thermal energy



NODA
Intelligent Systems

NODA solution portfolio

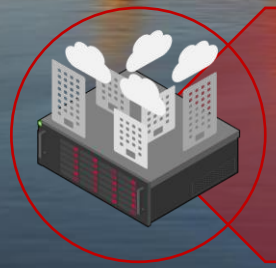


NODA Heat Network

Balance supply and demand to maximise business value

NODA Building

Active energy services to save cost and improve indoor climate

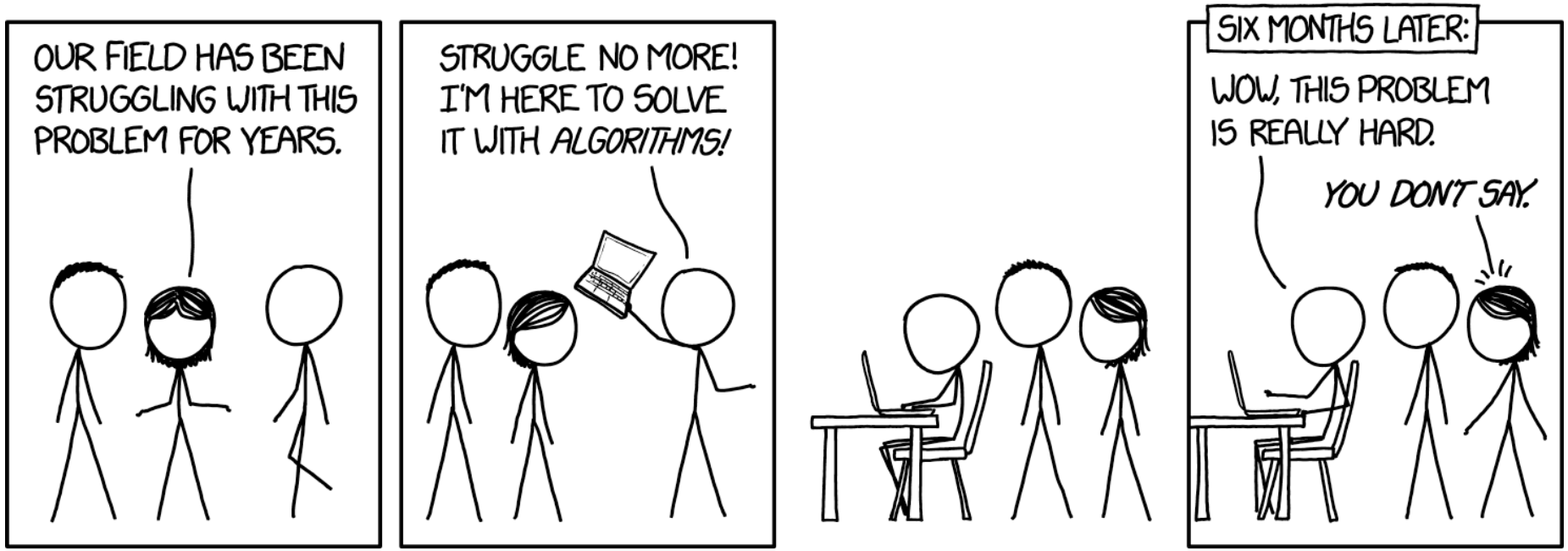


NODA Spotlight

AI for predictive maintenance, sales support and customer interaction

NODA
Intelligent Systems

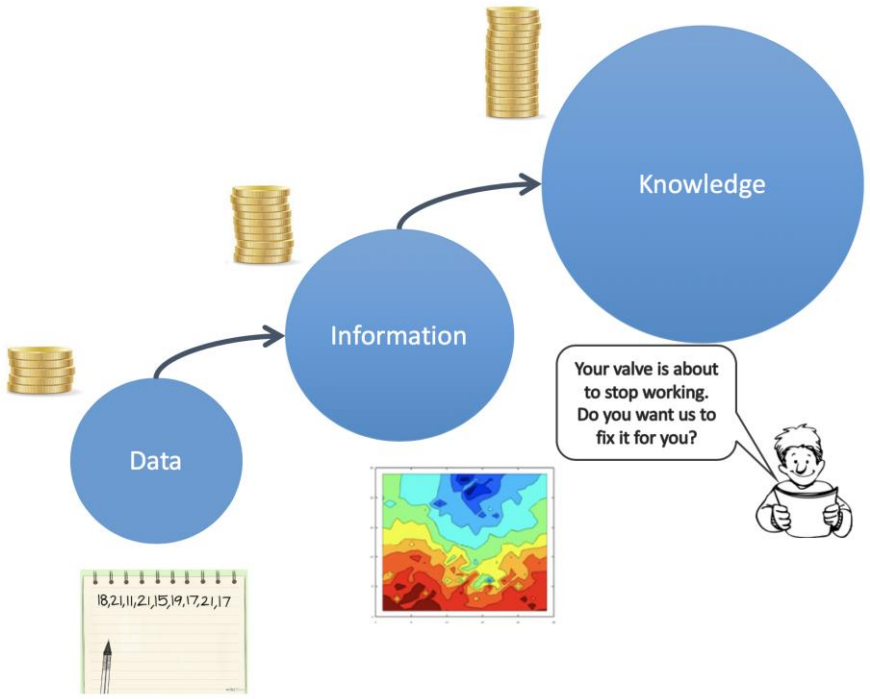
Smart Asset Management (SAM)



Smart Asset Management (SAM)

The purpose is to provide a structured process to increase the value of digital district heating by:

- Combining operational data with financial data
- Data cleaning and quality processing
- Automated peer grouping to avoid mixing apples and oranges
- Sorting and ranking to find the ”most wanted”
- Dynamically accessing and analysing data for predictive AI-driven analytics



Smart Asset Management (SAM)

- Where do we need to anything?
- What do we need to do?
- What is the financial and technical value of doing this?
- What should we talk to the customer about?

Smart Asset Management (SAM)

Peer- Grouping - Don’t mix your apples and oranges!

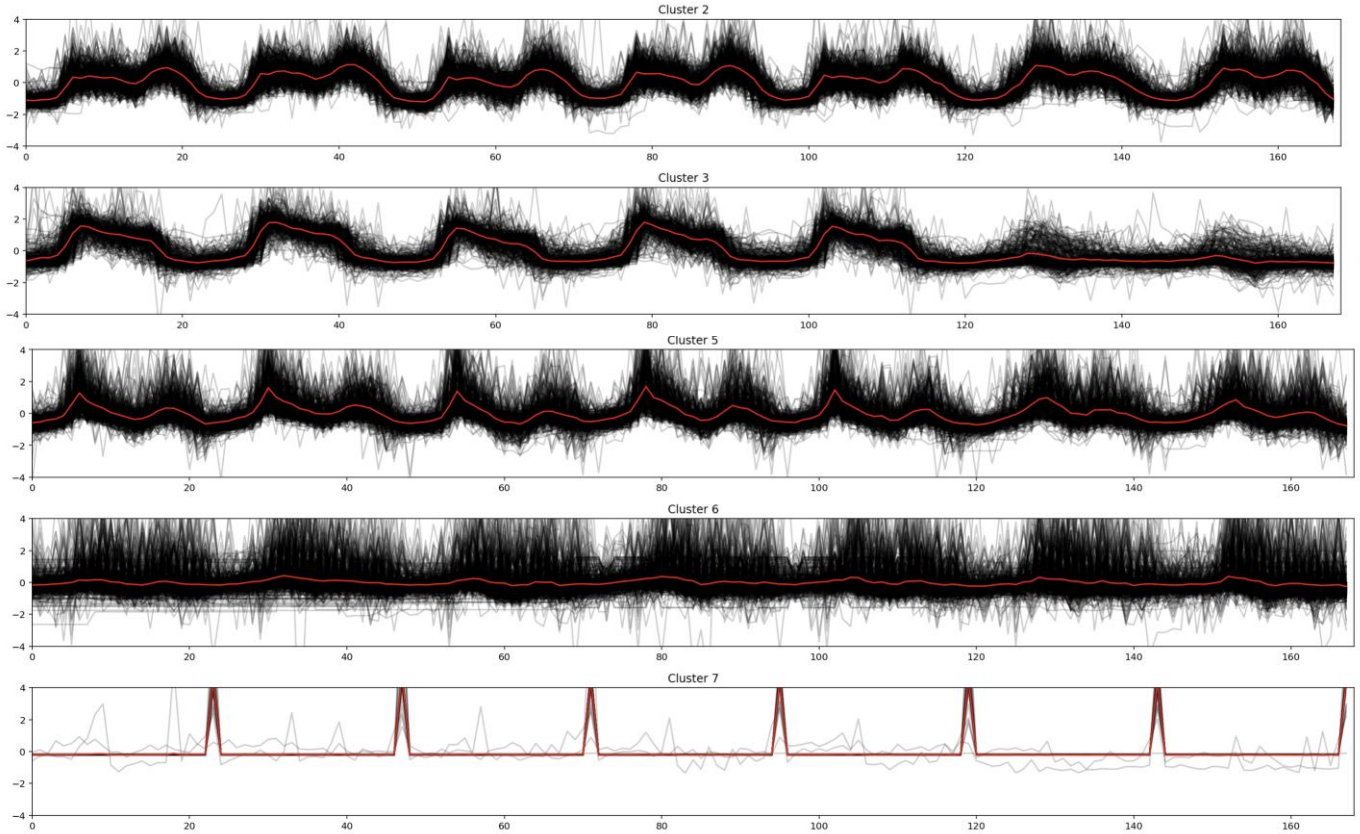
Residential buildings

Offices and industries

“Early birds”

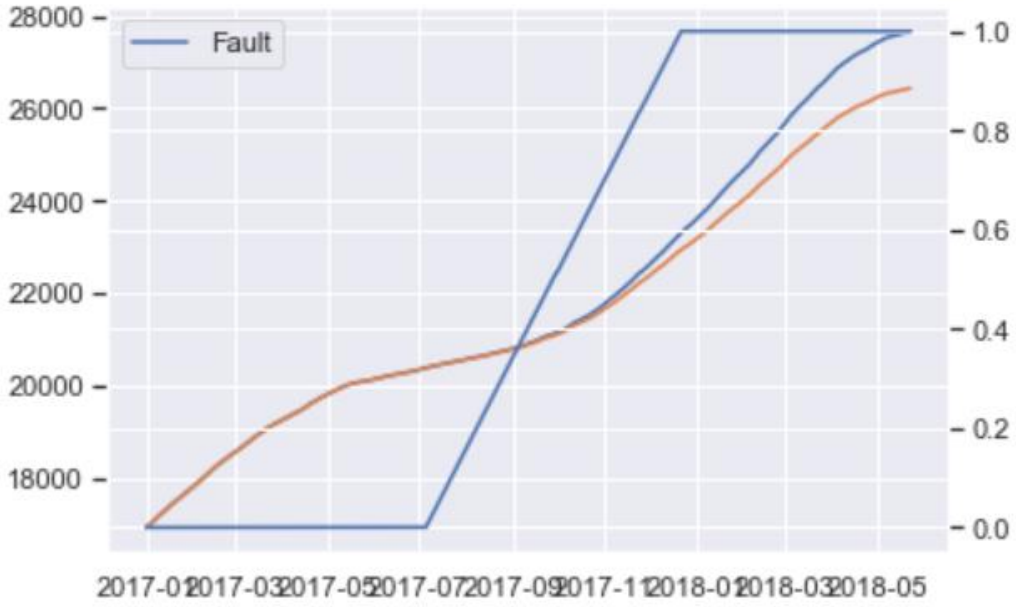
Single family buildings

Wrong tags



Smart Asset Management (SAM)

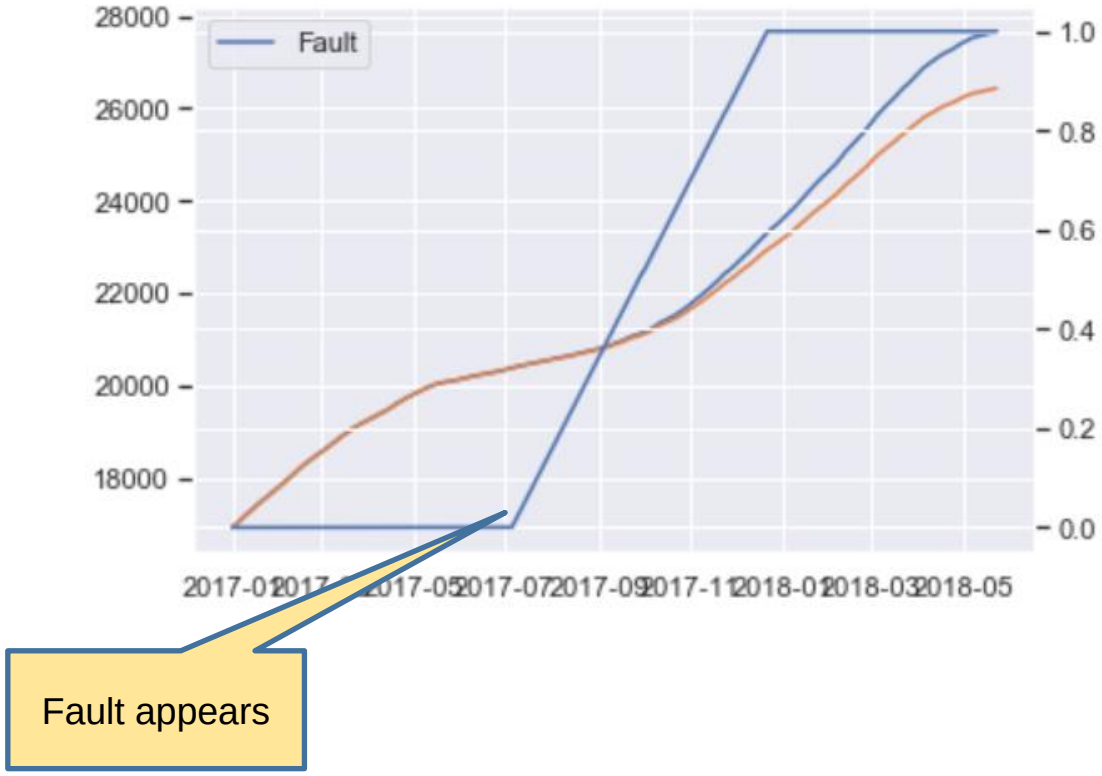
Detecting - Don’t drive with your eyes closed!



NODA
Intelligent Systems

Smart Asset Management (SAM)

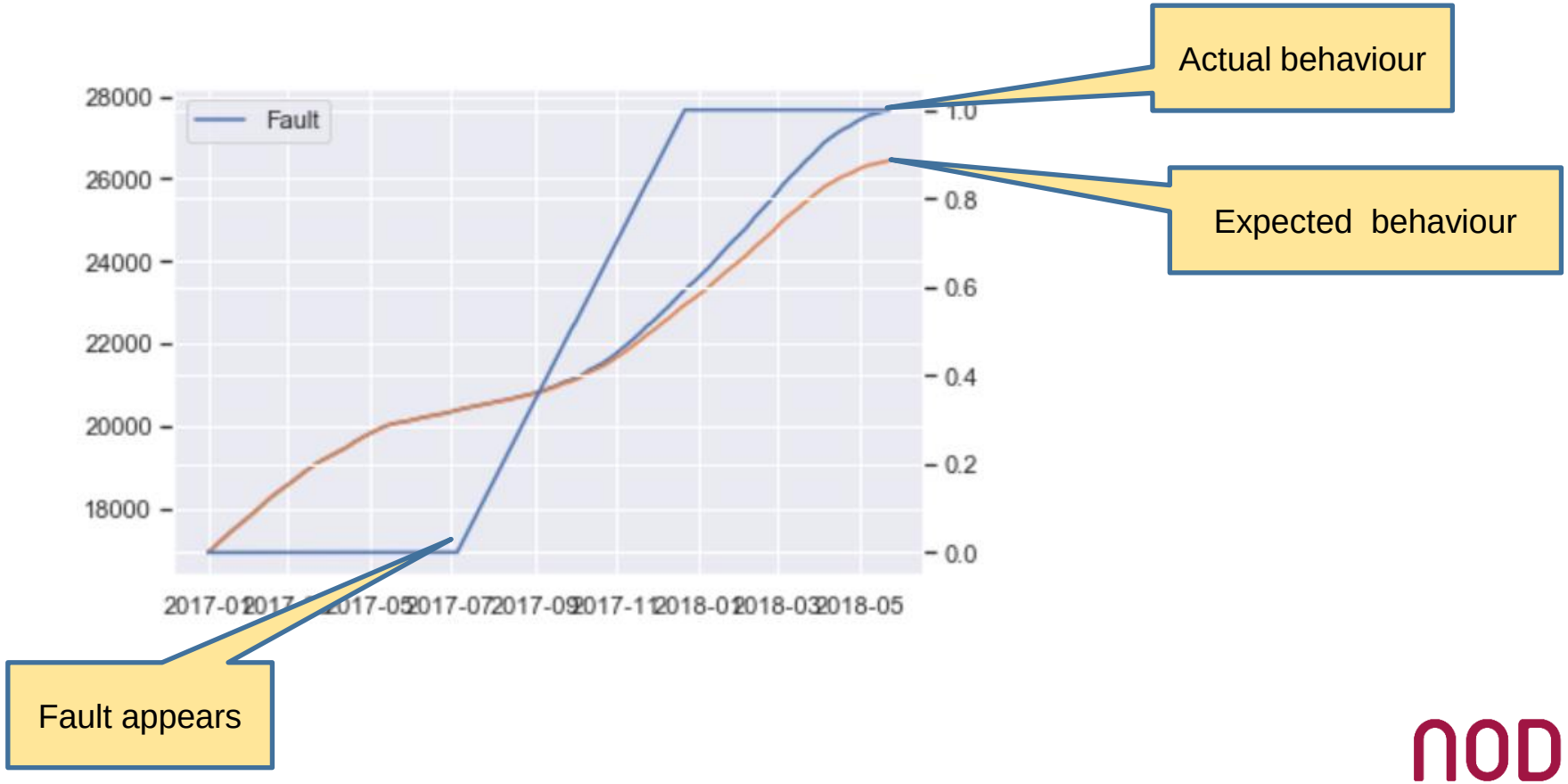
Detecting - Don’t drive with your eyes closed!



NODA
Intelligent Systems

Smart Asset Management (SAM)

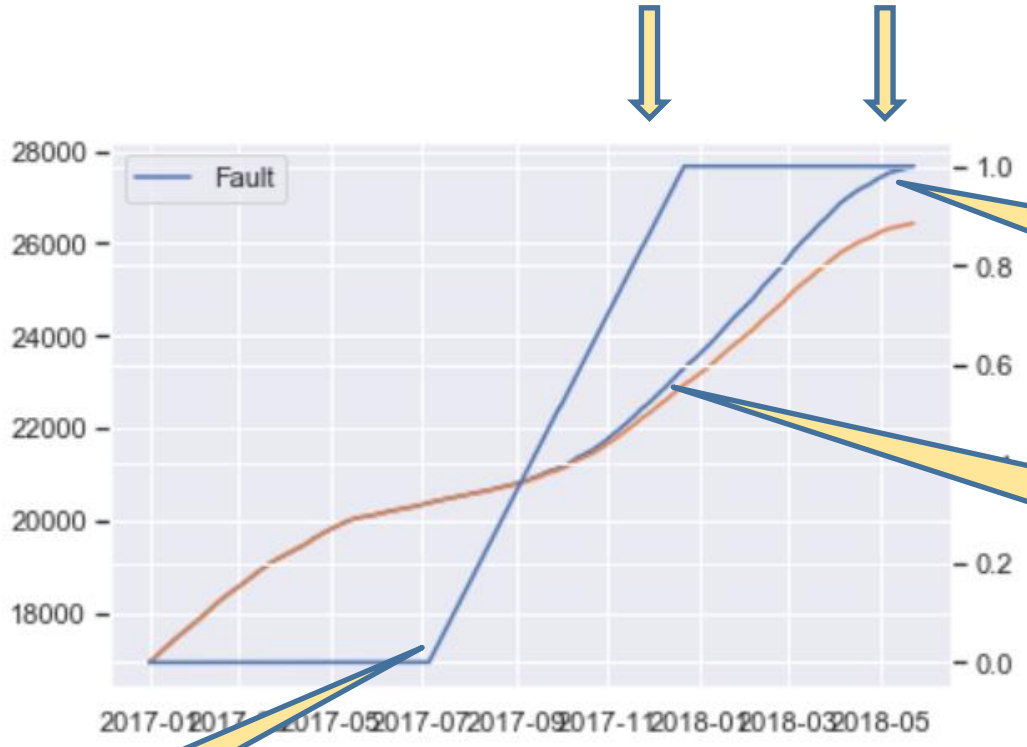
Detecting - Don’t drive with your eyes closed!



NODA
Intelligent Systems

Smart Asset Management (SAM)

Detecting - Don’t drive with your eyes closed!



Fault detected by traditional measurements (e.g. it breaks)

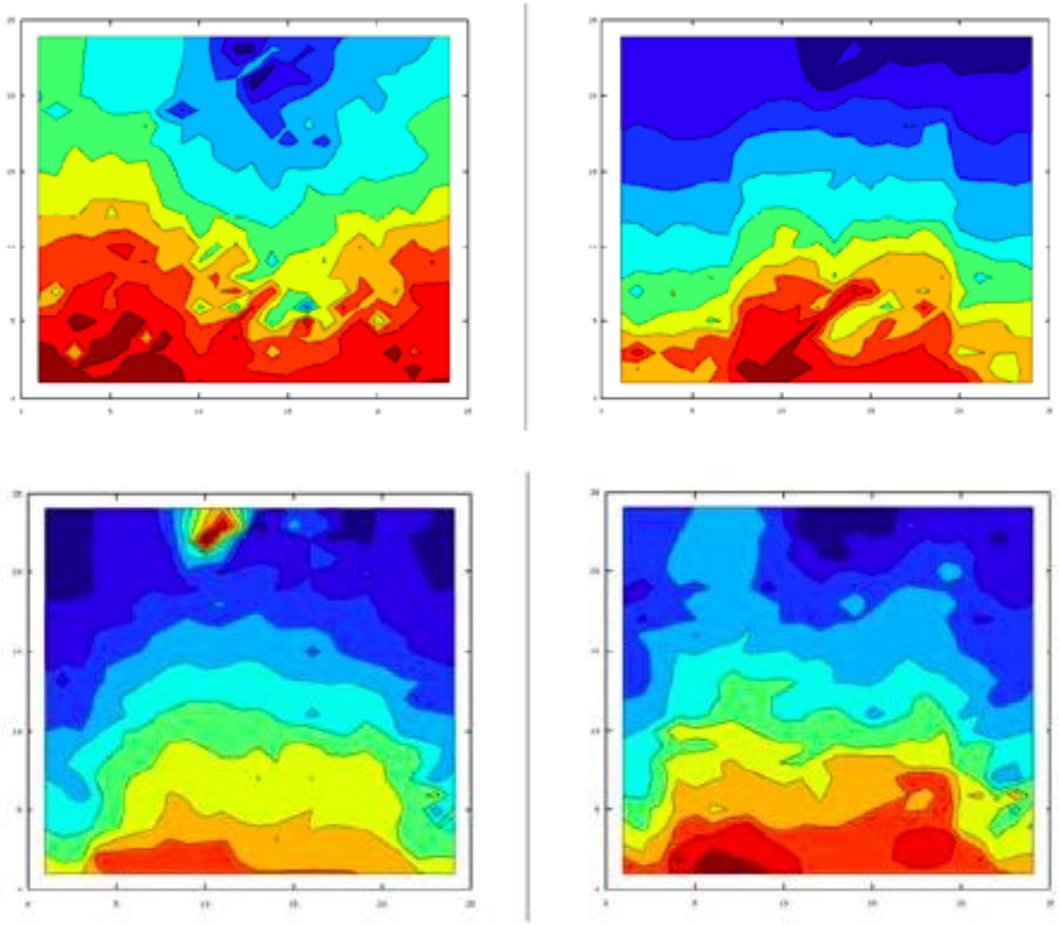
Fault detected by neural network due to divergence between measurement and model

Fault appears

NODA Intelligent Systems

Smart Asset Management (SAM)

Diagnosing – understanding what you are looking at!

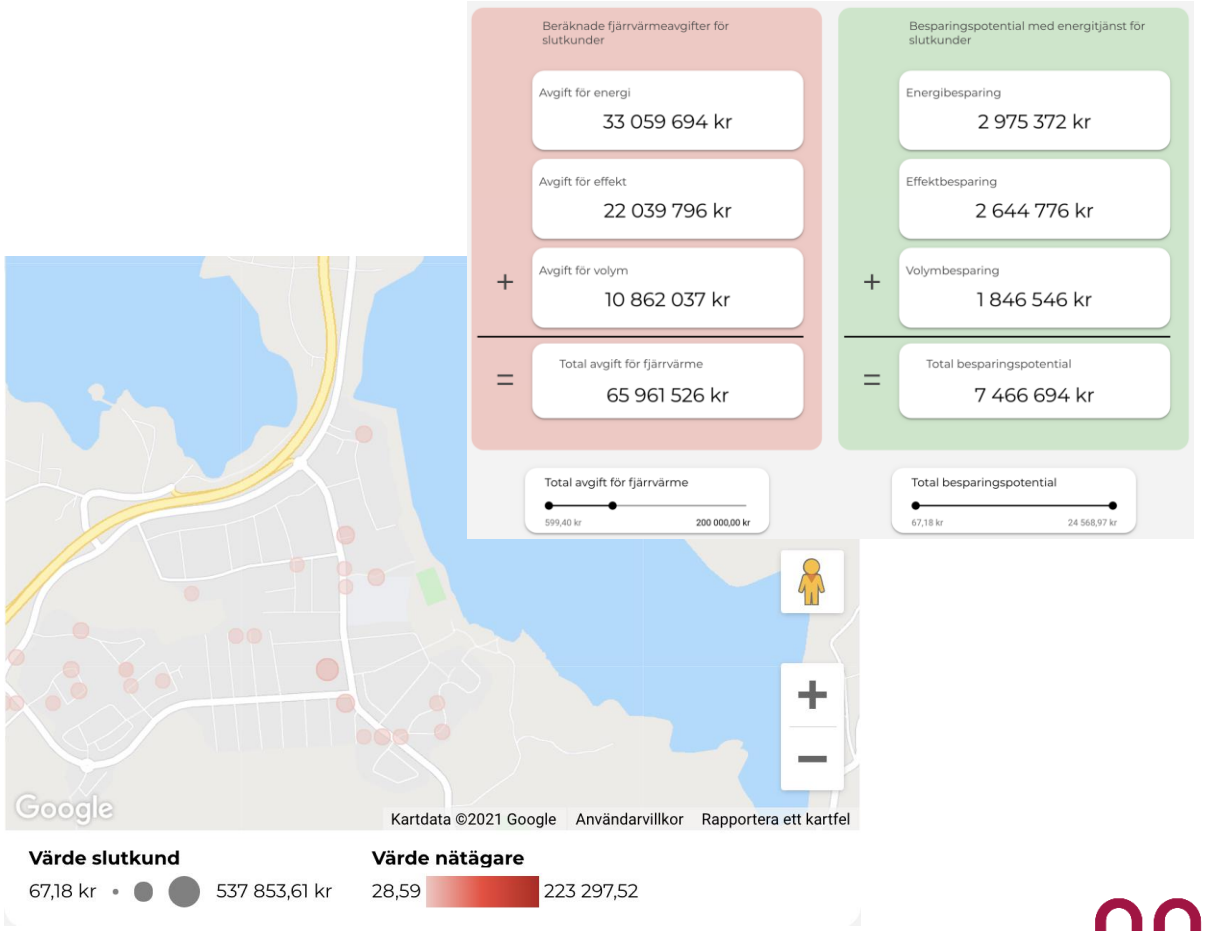


NODA
Intelligent Systems

Smart Asset Management (SAM)

Quantifying – putting a price on in!

- Technical value for predictive maintenance from a system perspective
- Market value relating to energy services, price model development and energy mapping
- Societal value calculating environmental impact for the smart city



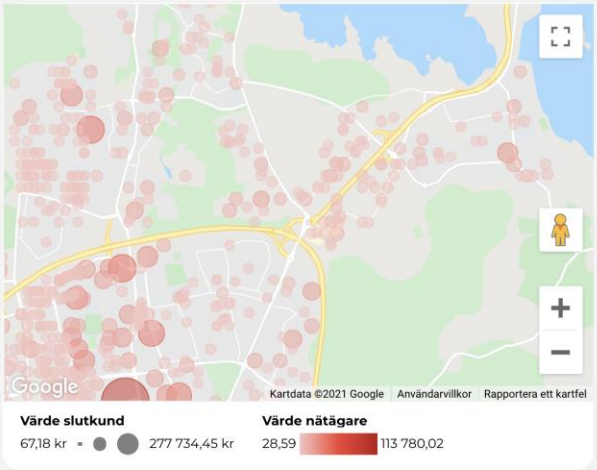
NODA
Intelligent Systems

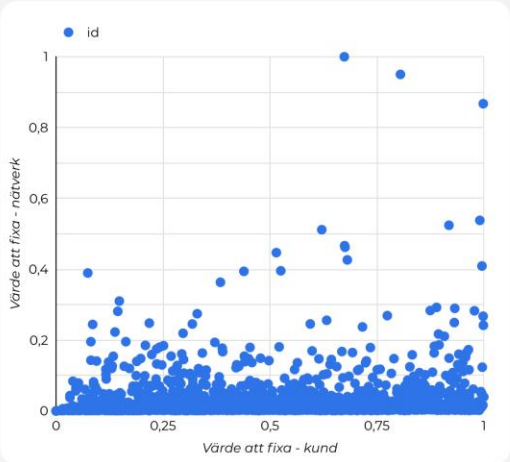
Smart Asset Management (SAM)

Smart Asset Management
District Heating & Cooling Distribution Network

Värdet av minskad returtemperatur för nätägaren:
7 037 692 kr

Värdet av energitjänster för slutkunder:
16 941 930 kr





Välj datumintervall

id

Värde att fixa - samlat
0 1,32

Värde att fixa - nätverk
0 1

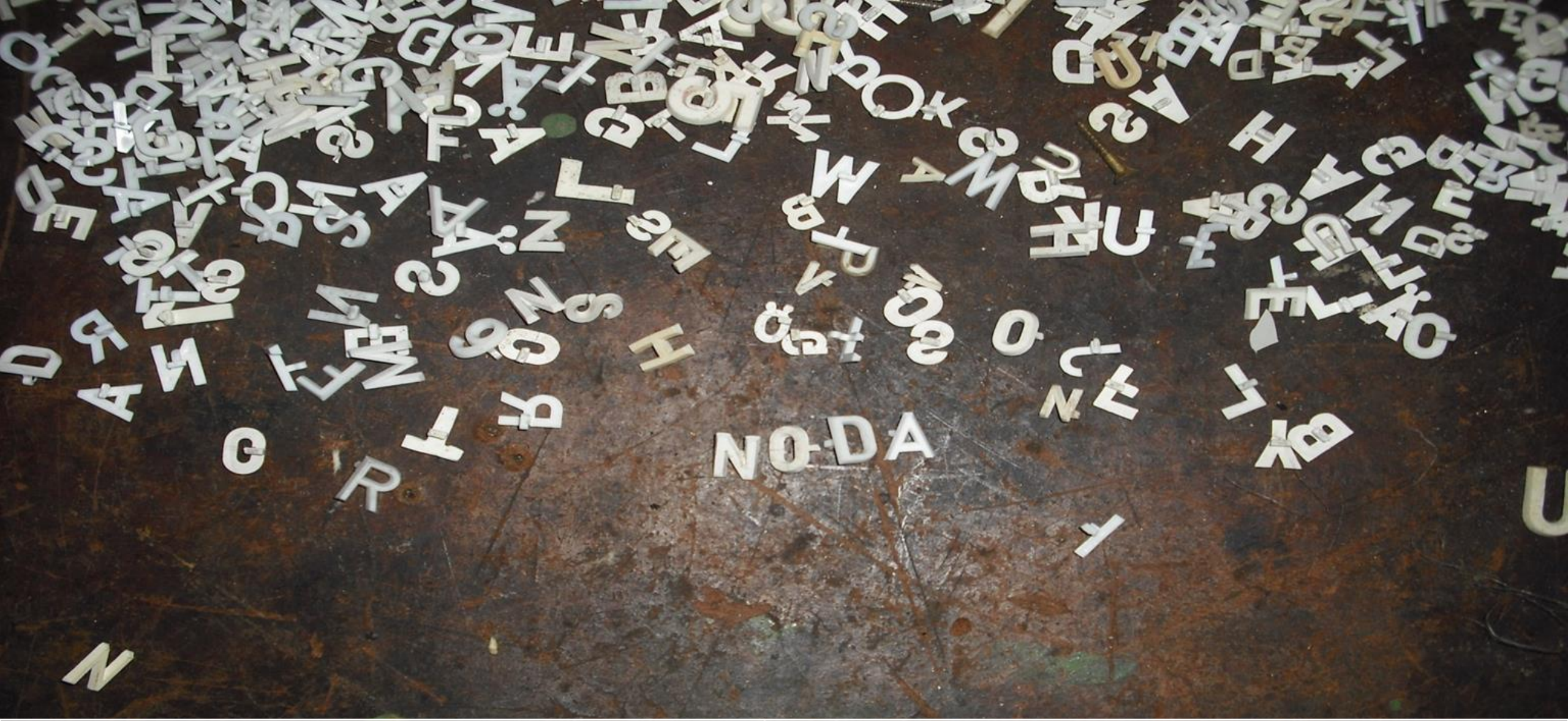
Värde att fixa - kund
0 1

Finansiell analys

	id	Most Wanted	Minskad retur värde	Besparing (total)	Besparing (energi)	Besparing (effekt)	Besparing (volym)
1.	knuckles-data/sam/csv/201622,pm	1	10 395,2 kr	50 256,99 kr	10 023,94 kr	8 910,17 kr	31 322,88
2.	knuckles-data/sam/csv/71091,pm	2	5 825,34 kr	43 045,79 kr	5 617,29 kr	4 993,14 kr	32 435,35
3.	knuckles-data/sam/csv/66564,pm	3	113 780,02 kr	277 734,45 kr	109 716,44 kr	97 525,73 kr	70 492,28
4.	knuckles-data/sam/csv/66527,pm	4	13 667,32 kr	46 754,97 kr	13 179,2 kr	11 714,84 kr	21 860,94
5.	knuckles-data/sam/csv/170870,pm	5	5 306,6 kr	24 568,97 kr	5 117,08 kr	4 548,51 kr	14 903,38
6.	knuckles-data/sam/csv/66063,pm	6	42 437,7 kr	108 433,21 kr	40 922,06 kr	36 375,17 kr	31 135,98
7.	knuckles-data/sam/csv/172285,pm	7	3 032,24 kr	15 106,58 kr	2 923,95 kr	2 599,06 kr	9 583,57
8.	knuckles-data/sam/csv/68761,pm	8	2 430,57 kr	12 988,19 kr	2 343,76 kr	2 083,34 kr	8 561,08
9.	knuckles-data/sam/csv/138173,pm	9	4 151,63 kr	18 017,75 kr	4 003,35 kr	3 558,54 kr	10 455,86
10.	knuckles-data/sam/csv/168480,pm	10	1 508,79 kr	7 202,01 kr	1 454,91 kr	1 293,25 kr	4 453,85

1 - 100 / 2076

NODA Intelligent Systems



Content by NODA www.noda.se