

SEAS-NVE Group

8 O percent of offshore windfarm Rødsand2

94,9 procent of EV - charging company CLEVER

40,2 percent af EnergiDanmark
65,5 Percent af Fibia

9,54 procent af Ørsted



898

Employees

2,56 billion equity (EUR)

443.000.000

Income/profit before tax (EUR) - 693 mil. In 2016

511 million

Revenue (EUR)

390.851

Co-operative owners of SEAS-NVE





### **Our map of Denmark**

- We have customers for electricity, EV-chargers and gas in the whole country
- Fiber network outside our own region
- Our region where we own the power grid and fiber network
- Local utility companies
- Location of our offshore windmill park, Rødsand 2



## IoT Infrastructure – LoRaWan From sensor to application





#### LoRa-WAN - IoT Network for smart solutions

Apps (Enduser LoRaWan Network S mart City IoT sensors Platform PaaS systems) Gateways servers & OSS (Actility) Street Lights App 1 Waste Net management **Smart Parking** Device management 2)) Device logger Climate/Pollution Built and operated by SEAS-NVE Sensor owned Gateway owned Public solutions by Municipality | by Municipality | Customer choice Sensor Customer Private solutions owned by solutions end-user Verticals developed by SEAS-NVE

### S mart Society Barrierers and challenges

# Problems getting started with IoT S mart solutions

- No public strategy of what need to be solved?
- Ownership of data?
- Cybersecurity?
- Hacking?
- Silo-thinking in the municipalities
- What do we do with all that data?
- Which standard should we use?
- Which Smart City platform should we use?
- Choice of technology?



### Stepping stones towards a Smarter Society

loT network covering the municipality

+ Smart City solutions mature technology



Innovative Smart City solutions, with new technologies and new partners for the benefit of

- Citizens
- Municipality
- Business
- Educational institutions

Financed individually case by case

IoT network covering the municipality

+ Smart City solutions mature technology



Smart City solutions using mature technology, for the benefit of

- Citizens
- Municipality
- Companies servicing the municipality

Solutions are financed by each involved partner / business case.

IoT network covering the municipality

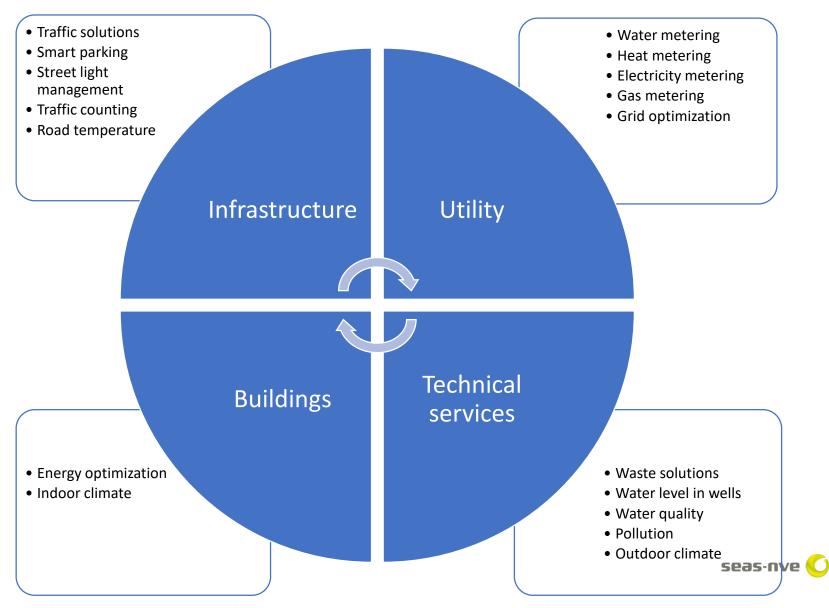


**Smart City network** 

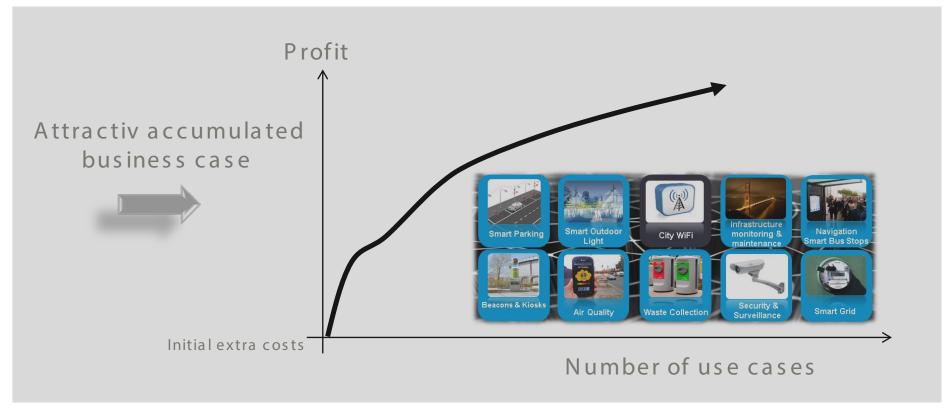
Investment financed by one or two single business cases (verticals) by SEAS-NVE (Light control management, metering, waste solutions etc.)



### Verticals close to our dna



### Availability creates more business cases



- Make it open and have scalable from day 1
- Share resources and data horizontally between silos and increase information and knowledge
- Embrace innovation for the benefit of the citizens

