1

field device
end node:
luminaire

Field devices include end nodes (luminaires that contain controllers for communications with other devices) and group controllers are devices that provide an interface between the lighting network, which contains the end nodes, and the IP network.

1

field device
group
controller

1

field device
end node:
luminaire

The main security requirements for the lighting network are availability and integrity.

2

communication in lightning network

3

Lightning backbone

The lighting backbone consists of IP-based communication between controllers and the local lighting management service. The devices that connect to the lighting backbone are less restricted in terms of hardware resources than the luminaires. Therefore, they can use standards and protocols for protecting Internet communication.

1

field device
group
controller

An on-premise lighting management service can be deployed to provide an interface to access the lighting network from the local IT network. An LMS provides management and diagnostic services for local site managers to fine-tune and perform maintenance on the lighting system.

4

Lightning management service

5

field devices

7

public internet connectivity

Increasingly, connected lighting systems in cities and buildings are shifting management from on-premise lighting management services to cloud-based lighting management services

6

cloud services (global)

10223819112018

driving through a red light is illegal, dangerous, and potentially lethal. so i had better stop my carat this red light.

i`m driving towards the traffic light that has just turned red. rules says that i must stop my car when traffic light is red.

traffic light turned to red
on 19 november 2018, 10:22:38 MEZ
on the corner of Argentinier- & Gusshausstraße

red
10223819112018
48.197319 16.371768

wisdom

knowledge

information

raw data

value of data

humans

computers
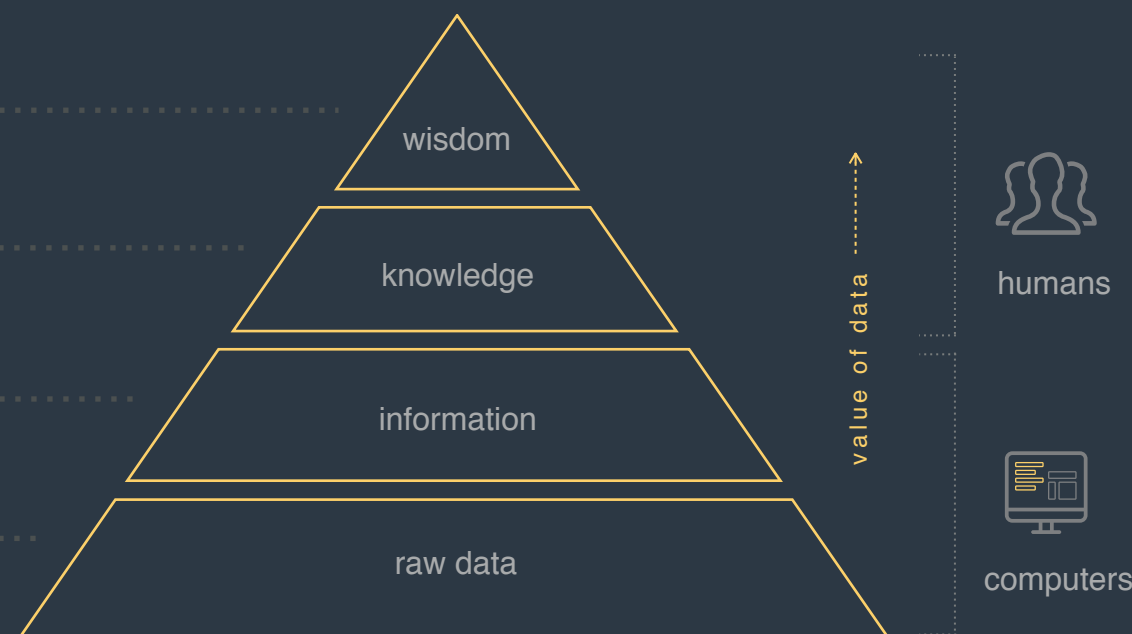
its all about data

The IoT is a network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment. The sensing is done by sensors of various types - whether these are motion sensors in the ceiling of an office space, noise level sensors on a city street, or sensors that can detect physiological states and changes in an individual.

The communication is handled by standard wired or wireless communications methods embedded in connected physical devices. Connected physical devices range from thermostats to energy meters to tractors to wearables for monitoring personal fitness and vital signs. Any digital device that can collect or share meaningful data about itself, its usage, and its environment is a candidate for participation in the IoT. Security experts have identified and addressed dozens of risks in the connected lighting ecosystem, taking the attitude that "it pays to be paranoid." Because connected lighting systems are complex platforms with still a simple based technology - there are many ways to attack them.