# Internet of Things & Connected Products

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## Internet of Things

Small, connected computers with sensors, actuators.

Efficiency, e.g. trash bins let you know they are full.

Convenience, e.g. remotely preheat a holiday home.

New insights, e.g. a crowdsourced air quality map.

## Connectivity

Transmit data at room, building or city scale.

Personal area network, e.g. BLE, Zigbee, ~30 m.

Local area networks, e.g. Ethernet, Wi-Fi, ~100 m.

Wide area networks, e.g. 5G, LoRaWAN, 2 to 20 km.

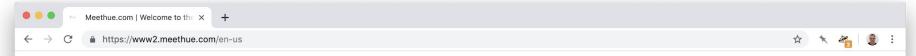
## Connected products

Internet-connected consumer products.

Philips Hue, connected lights with a Web API.

Withings Scale, logs your weight to a dashboard.

Good Night Lamp, linked lamps to share presence.



# Smart lights Smarter controls

Philips Hue is not just a smart bulb, it's a smart lighting system. The smart lights, Hue Bridge, and smart controls will forever change the way you experience light.







### **Hue lights**

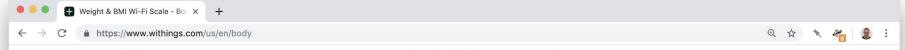
These smart and energy-efficient LED lights come in a wide variety of shapes, sizes, and models to suit your space.

### **Hue Bridge**

The heart of your Philips Hue system, the Bridge acts as a smart hub, connecting your devices to your smart lights. You can add up to 50 Philips Hue lights and accessories to one Bridge.

### Hue app

Control your smart lights quickly and conveniently with the Philips Hue app.



### Meet your new accountability partner

Body offers a complete weight tracking experience tailored to individuals seeking easy, effective weight management. Weighing in is just the first step. Each session also provides instant feedback via weight trend and BMI screens, plus automatic sync to a free app on your smartphone, so you can track progress any time, anywhere.

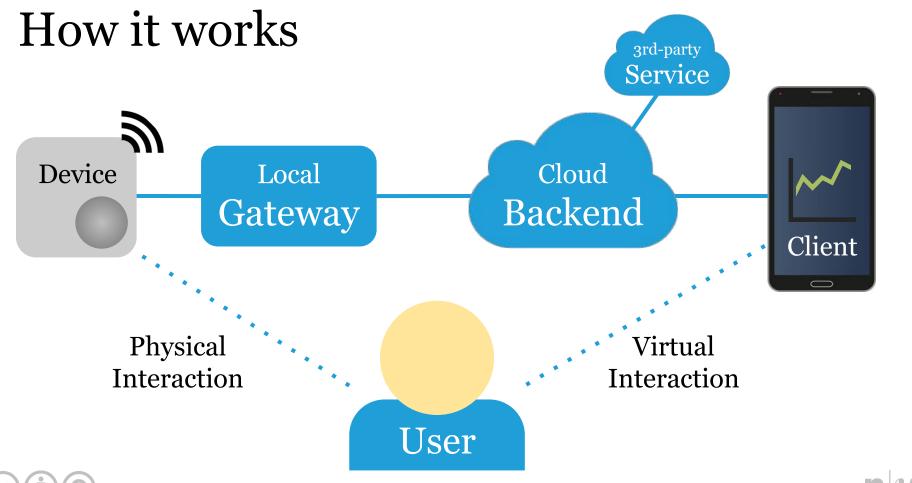




## Turn a Big Lamp on and Little Lamps which you've given away turn on too. Anywhere in the world.

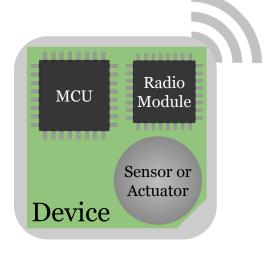
Use the Good Night Lamp to tell a loved one 'now's a good time for a chat', 'I'm thinking of you' or 'call me when you get home'. You decide. As your family grows or moves away, you can add as many Little Lamps as you want.







# What's inside

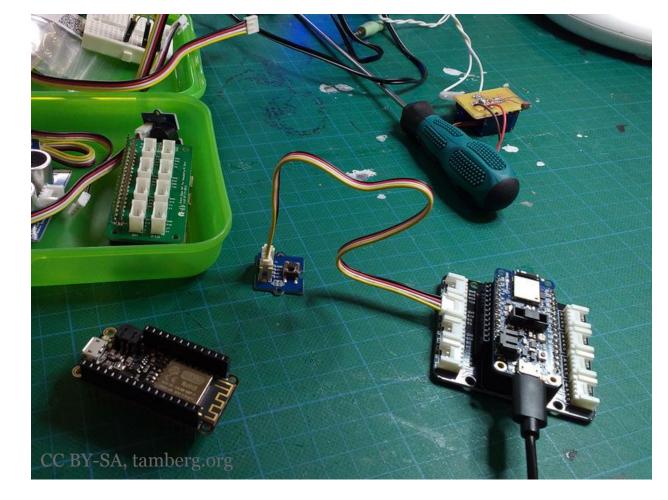




# Prototyping

Use modular, open source hardware.

E.g. Feather and Grove.



## From prototype to product

Hardware prototypes are easy, products are hard.

Engineering, to make electronics smaller, low power.

Design for manufacturing, to reduce cost per piece.

Scale up from 100 to 1000 to 10k per batch, learn.

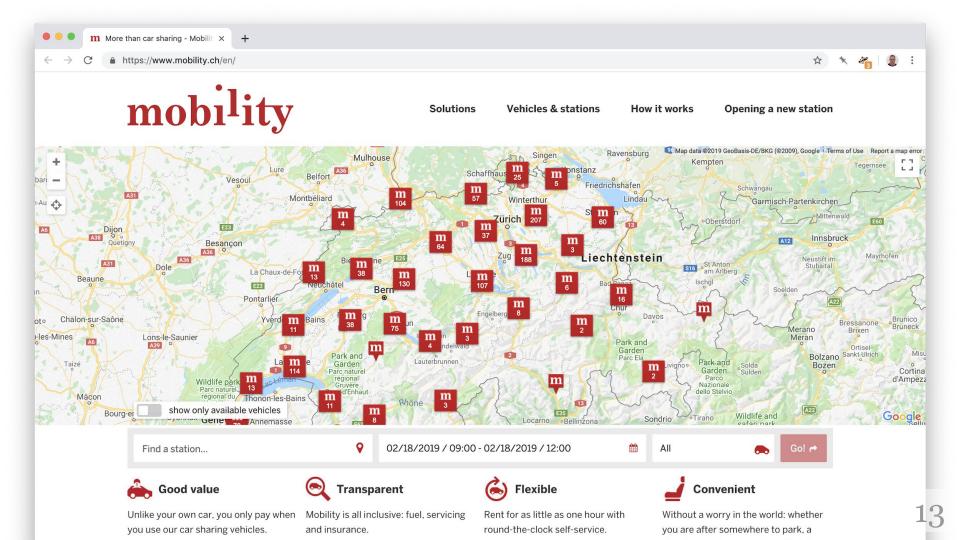
## From product to service

Each connected product represents a service.

Philips Hue lights for "smart lighting".

Kindle reader to "never be without a book".

Withings smart scale as "accountability partner".









## caru

Produkt Über uns

**Firmenkunden** Privatkunden

Login Kontakt







Get a notification in your hearing aids when the doorbell rings.

### Click for full guide



Send a text message or email to a caregiver when the hearing aid battery is low.

### Click for full guide

Have your hearing aids go into a special listening program when you make a voice command.

### Click for full guide



Receive a notification when your home alarm system goes off.

### Click for full guide



Explore Support

Have your hearing aids switch to a preferred listening program based on your GPS location.

Click for full guide

## Better IoT

Security, to keep devices, network & backend secure.

Privacy, to keep people in control of their own data.

Interoperability, to become part of an ecosystem.

Openness, standards & open source build trust.

See, e.g. betteriot.org principles and wiki.





