



Changers

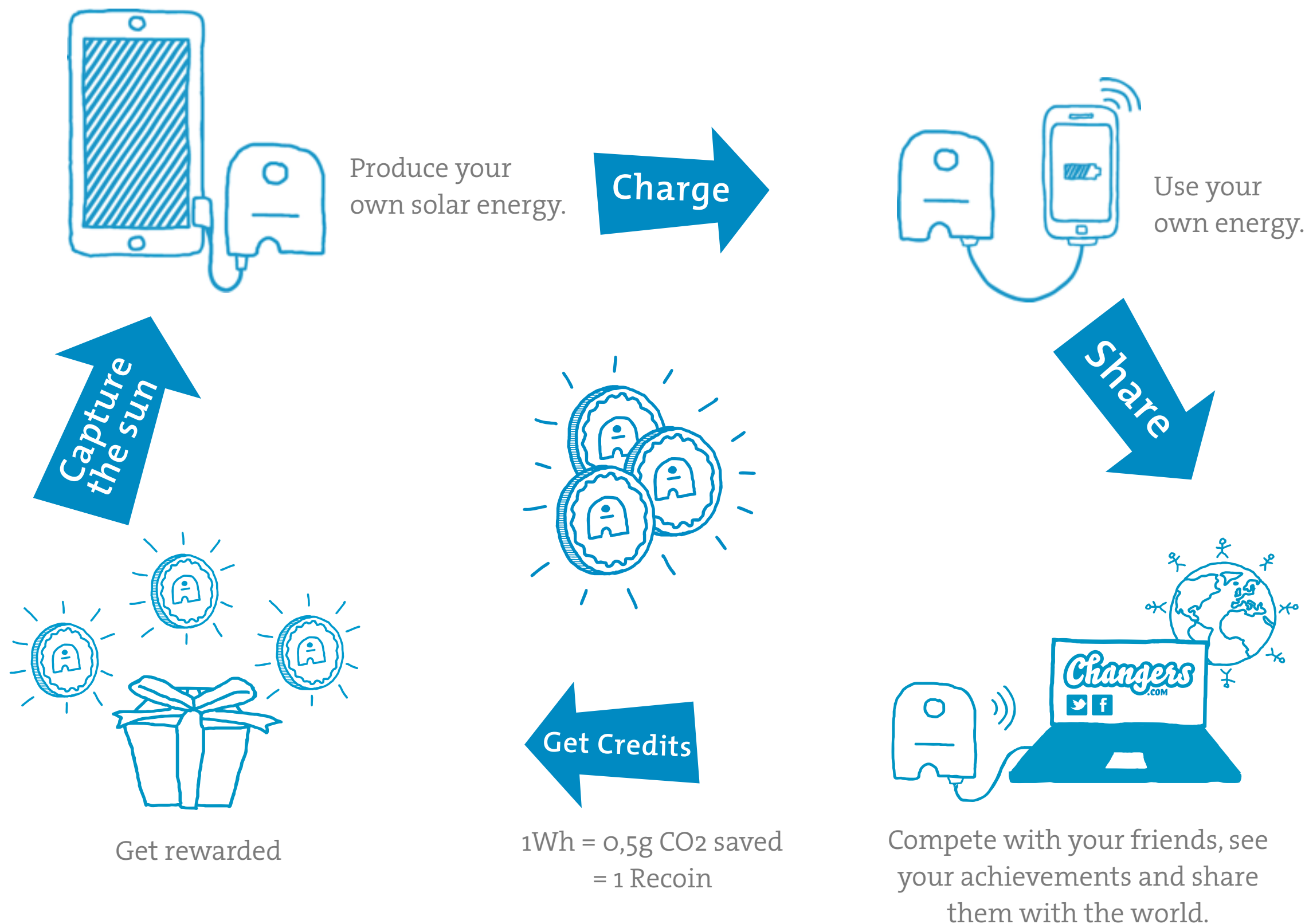
Reward behavior, motivate change.

GOTO Berlin
November 2014

The Changers Solar Charger



The core functionality - gamification & rewarding people for doing good stuff



Now lets take this one step further



Doing good

Care about the society you are part of and get involved in making it a better place. Wheter you vote at elections, donate money or blood, get yourself an organ donor card or simply give tuitions to your neighbours kid we are going to support you by giving you Credits in exchange for your time spent.

Improve yourself

You learn a new language, make a first-aid course, get started and learn coding or participate on further training courses. Be sure we will support you with Credits.

Home Automation

Switch on your devices whenever green energy is available. Get rewarded for reliving the strain on the electricity supply system at peak hours. Store the green energy and be an active part of the smart grid.

E-Mobility

Charge your E-Car with renewable energy. Drive environmentally friendly and conserve resources. Take other people along on your drives and get rewarded for your behavior.

Health Care

Get active and start a healthy lifestyle. For your activities which are helping to reduce health care costs you are getting rewarded with Changers Credits

Sharing is caring

Take part in Car-Sharing, use public transportation or travel by train and start to explore more and more ways to unburden the environment as well as your financial resources. On top we are going to reward you with valuable Credits.

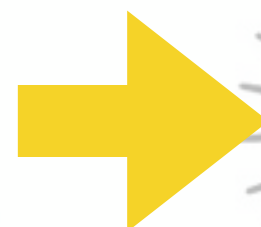
Recoins are based on CO2 savings through solar energy production.



One watt-hour of solar energy is equivalent to a half gram of CO2 savings.

We validate, measure and book each watt hour generated by the user with the Changers solar charger as a Recoin in his wallet.

1 Wh



The solar charger distinguishes between solar power and grid power and measures the amount of renewable energy in Wh. The charger stores the power in its Li-ion batteries and transmits the data to the app.

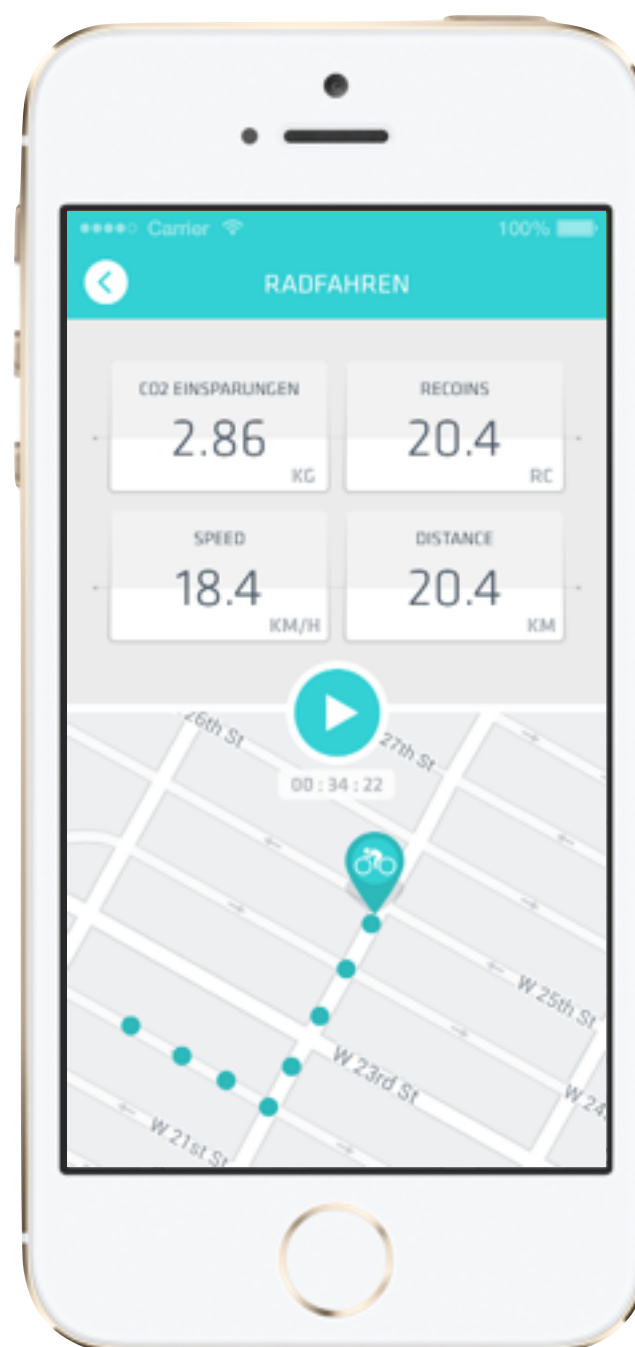
In 4 hours the battery is fully charged and is enough for 2x a smartphones load and up to 42% of a tablet load.

We have an U.S. Patent granted on the manufacturing process of Recoins. The local phase in the EU is already initiated.

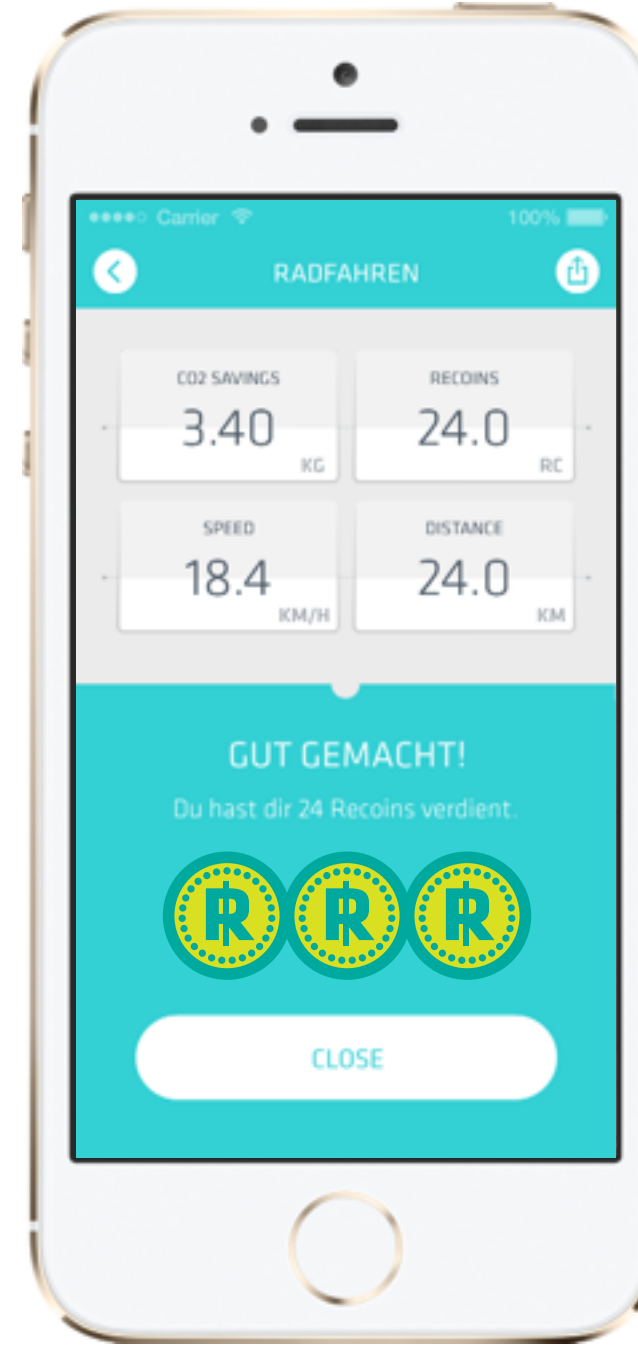
The Changers App - reward sustainable mobility



The user starts a journey by choosing a type of mobility.



The app measures the distance and calculates the user's CO2 balance.



At the end of the journey the user gets their CO2 balance and is rewarded with Recoins.



Get into motion and earn Recoins...



Bike ride: 1 km = 1 Recoin
142 g CO2 saving per km



Public Transit: 5 km = 1 Recoin
65 g CO2 saving per km



Train: 20 km = 1 Recoin
97 g CO2 saving per km

With Recoins or Euros, now anyone can make their daily life CO2 free.

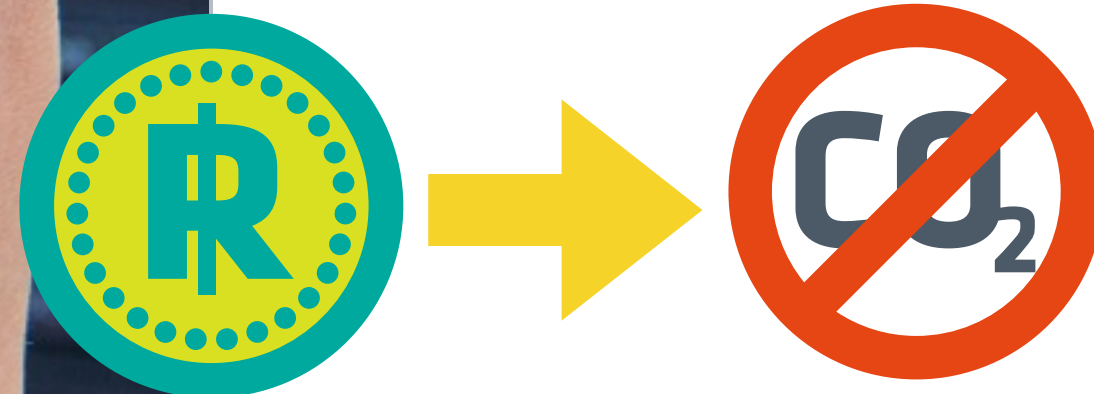


Travel by car or plane?

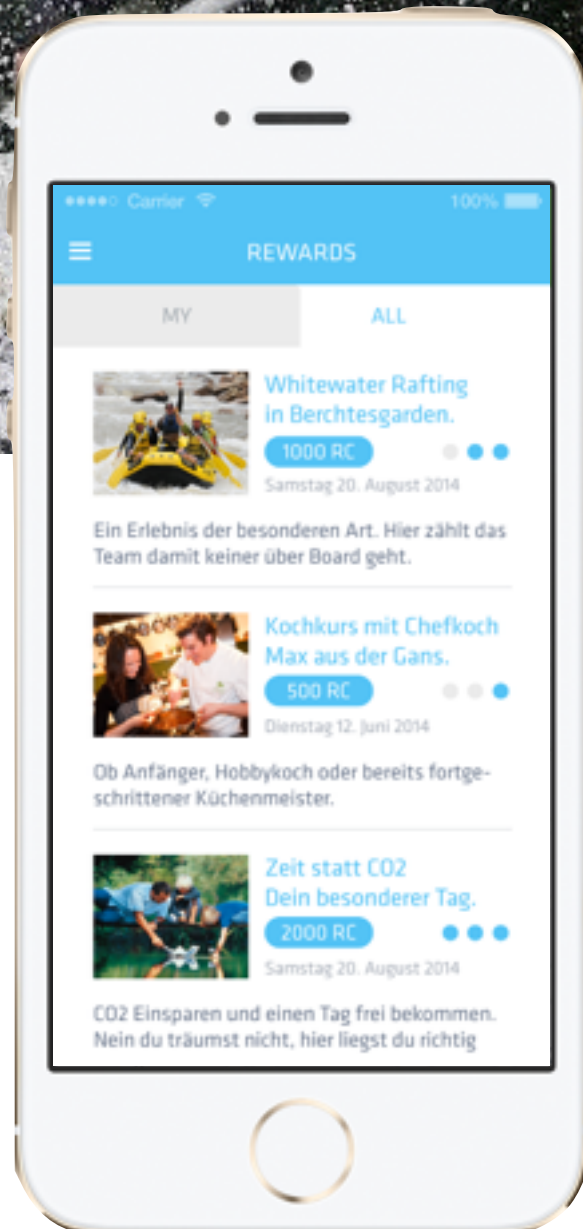
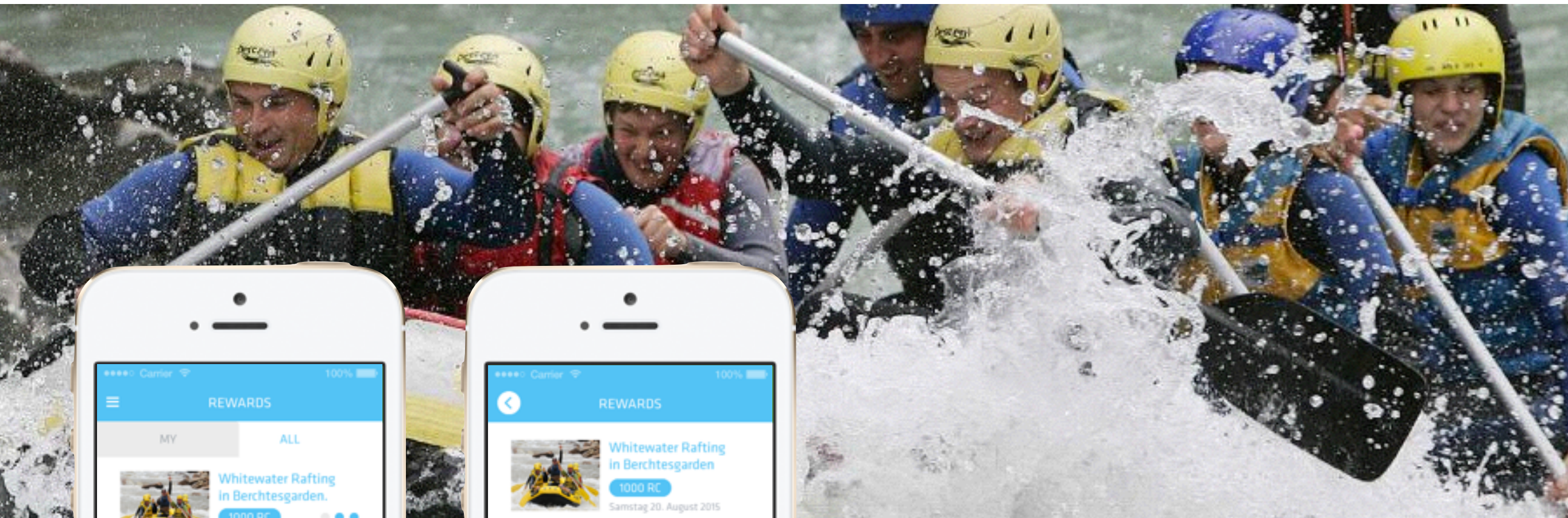
All trips that have a CO2 emission can easily be made CO2 free with one click in the app. Users can free their trips of CO2 using Recoins.

Changers purchases official CO2 certificates that can be offset with Recoins.

For example, with only 4 Recoins you can compensate 1 kg CO2!



How we integrate companies, motivate employees and save money on health care costs.



With Recoins unforeseen new motivational tools become available.

For example

- 50 Recoins = a lunch in the cafeteria
- 100 Recoins = a tree planted
- 250 Recoins = a seminar
- 500 Recoins = a half day vacation
- 1000 Recoins = Whitewater Rafting in Berchtesgaden



In addition, companies and their employees can also exchange Recoins at Changers for CO2 emissions compensations. This can be integrated into their sustainability reporting.

How our green customer loyalty system also integrates the over-the-counter retail trade.



100 Recoins



Payment with Recoins via:

- ➡ the Changers App and QR Code
- ➡ existing magnetic card reader system

Other Add ons and Gamification possibilities



"Ralph" stands for a Tamagotchi concept to motivate the people to sustainable behavior in dealing with electricity, heat, mobility and consumption, that could not be reached previously with classical communication on climate change. Ralph's habitat is the smartphone or the smartwatch. The offline as well as online

behavior of the user has a direct impact on him and his habitat. He's fine when the user is traveling often by bike, he watches for CO2 avoidance and when the user decides to purchase a product, Ralph prefers green items.

Make him happy and pimp his habitat.

Everyone can every day do something good for Ralph.



Push notification

Ralph says hi. Why don't you give him back a little love and take the bike instead of the car?

Buy a "tree gift-card" and plant a real tree. Your Ralph will get a tree in the mobile phone.



Plant a tree

Ralph loves the fruit from the tree.

Buy CO2-neutral products. Scan the QR code and get cool things for Ralph.



Create a beehive, make honey and Ralph can start a family.

Compensate your CO2-Emissions through your mobility.



There are many opportunities to make Ralph happy and strong, both online and offline.



Recoins take effect three times and save businesses and communities money.



100.000 Recoins equals:

Production	– 50 kg CO ₂
Bike ride	– 14,2 t CO ₂
Compensations	– 100,0 t CO ₂
Savings in total	<u>= – 114,25 t CO₂</u>

Environmental stresses cause high costs to society, such as environmental health and material damage, crop losses and the costs of climate change. An ambitious environmental policy reduces these costs.

UBA-Recommendation for climate costs

Climate costs in Euro per ton carbon dioxide	Short term 2010	Mid term 2030	Long term 2050
Low value	40	70	130
Middle value	80	145	260
High value	120	215	390

Source: Federal Environment Office, Best Practice Cost Rates for Air Pollutants, Mobility, Power and Heat Generation, Dessau-Rosslau 2013

Thanks for your attention



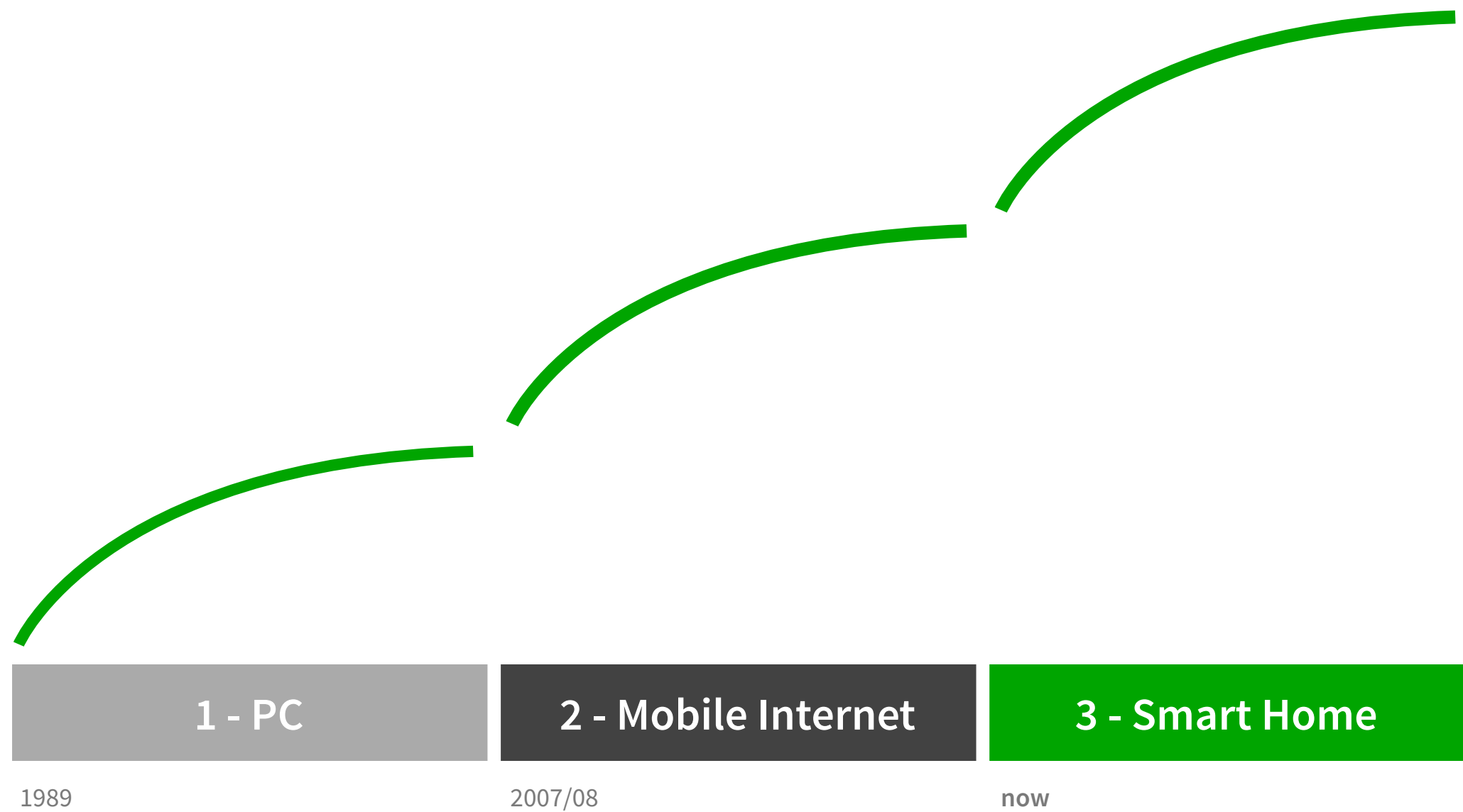
Bildrechte: Andreas Chudorowski





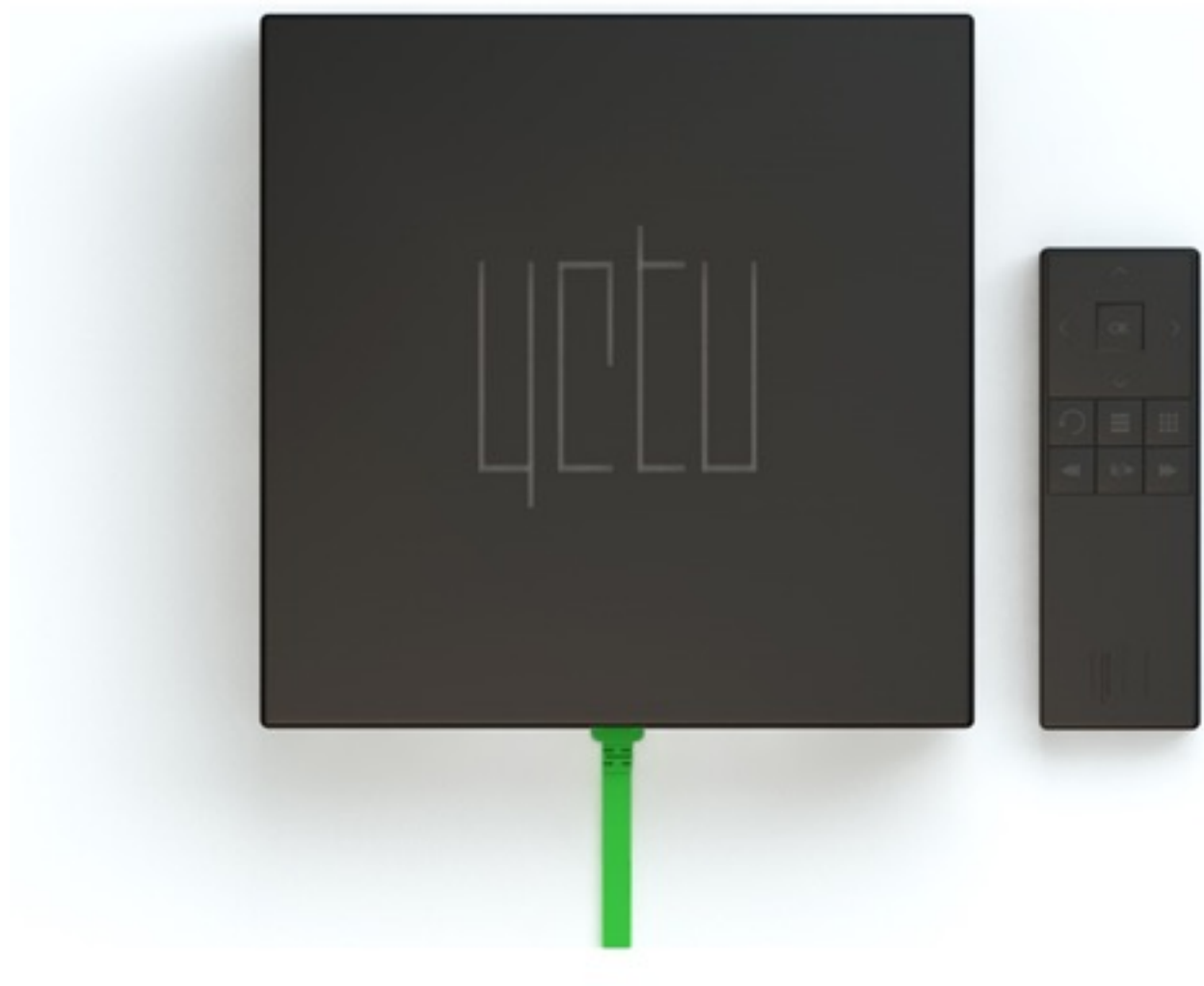
Discover
a new world at home.

Consumer Internet.





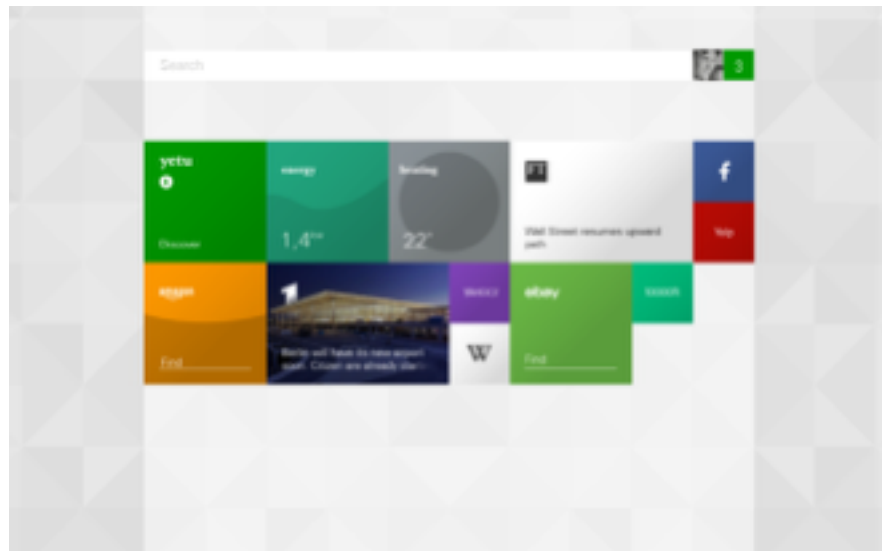
Using
technology
at home
is not always
that simple.



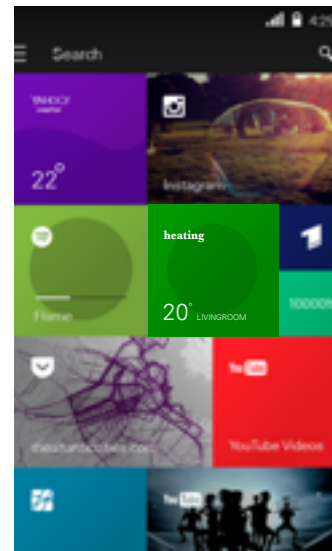
One gateway.
Everything
connected.

On Any Screen and Operating System.

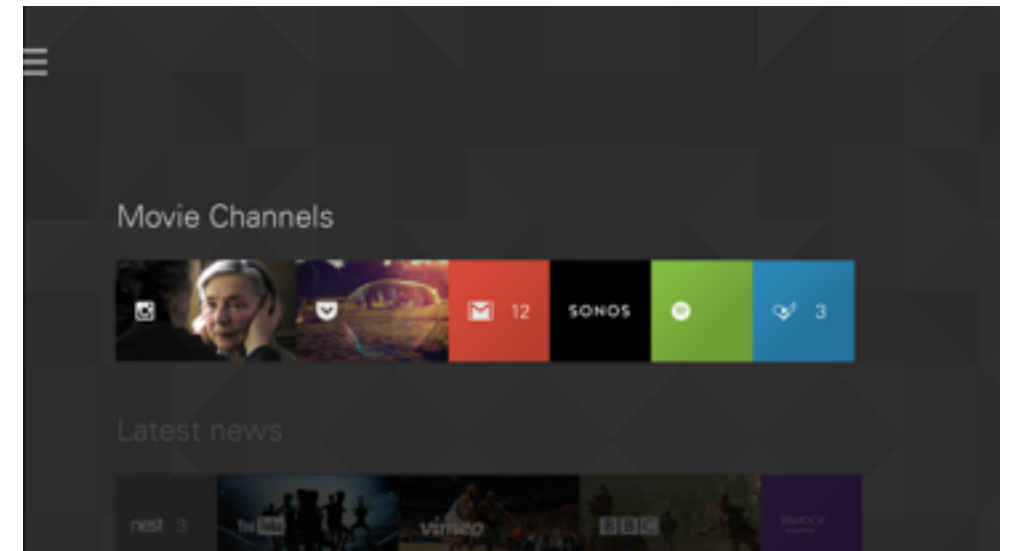
Desktop

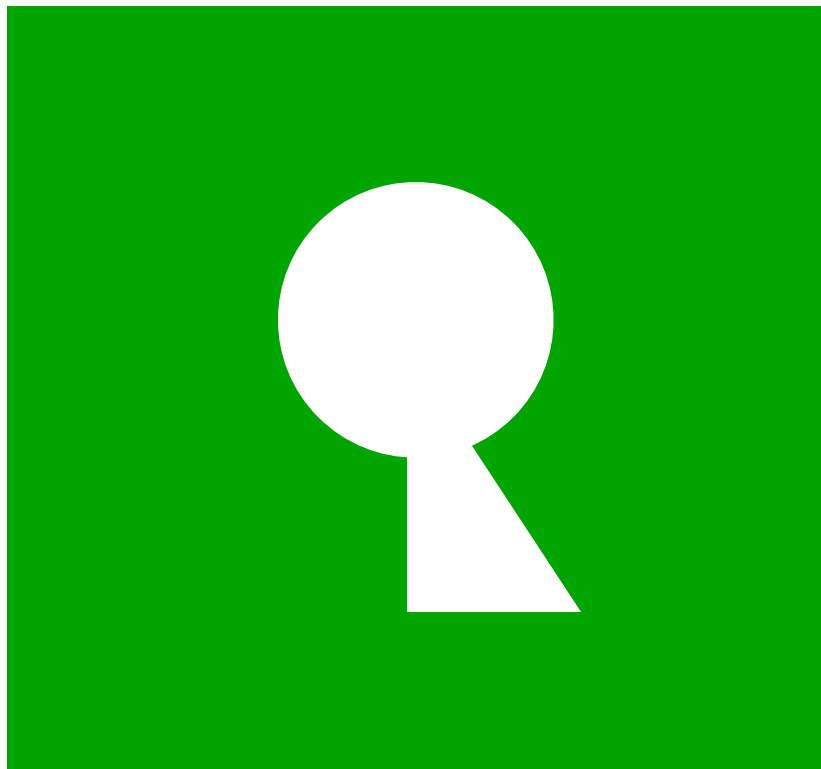


Smartphone



TV





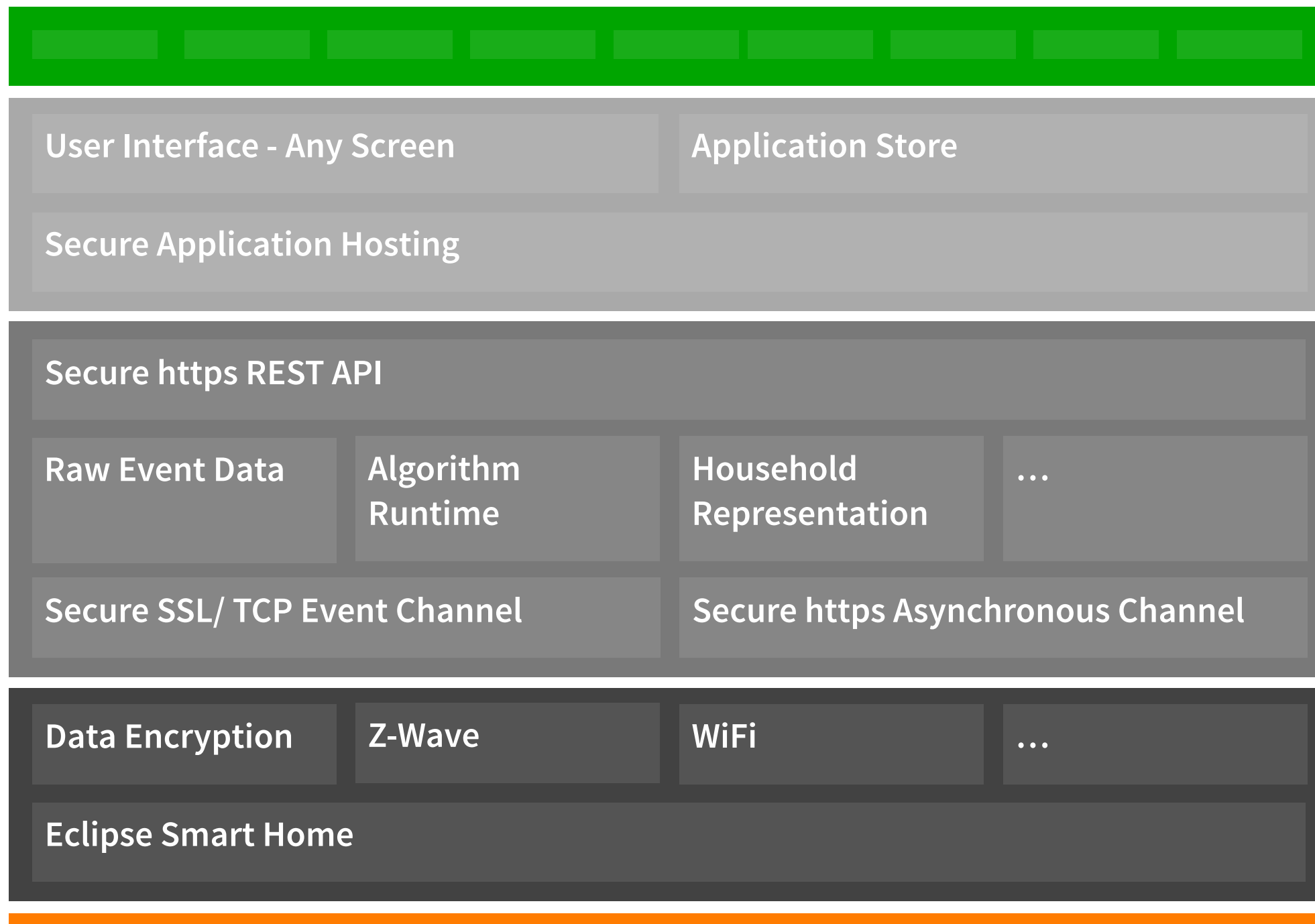
Data Privacy.

We put a lock on data and hand the key to users only.

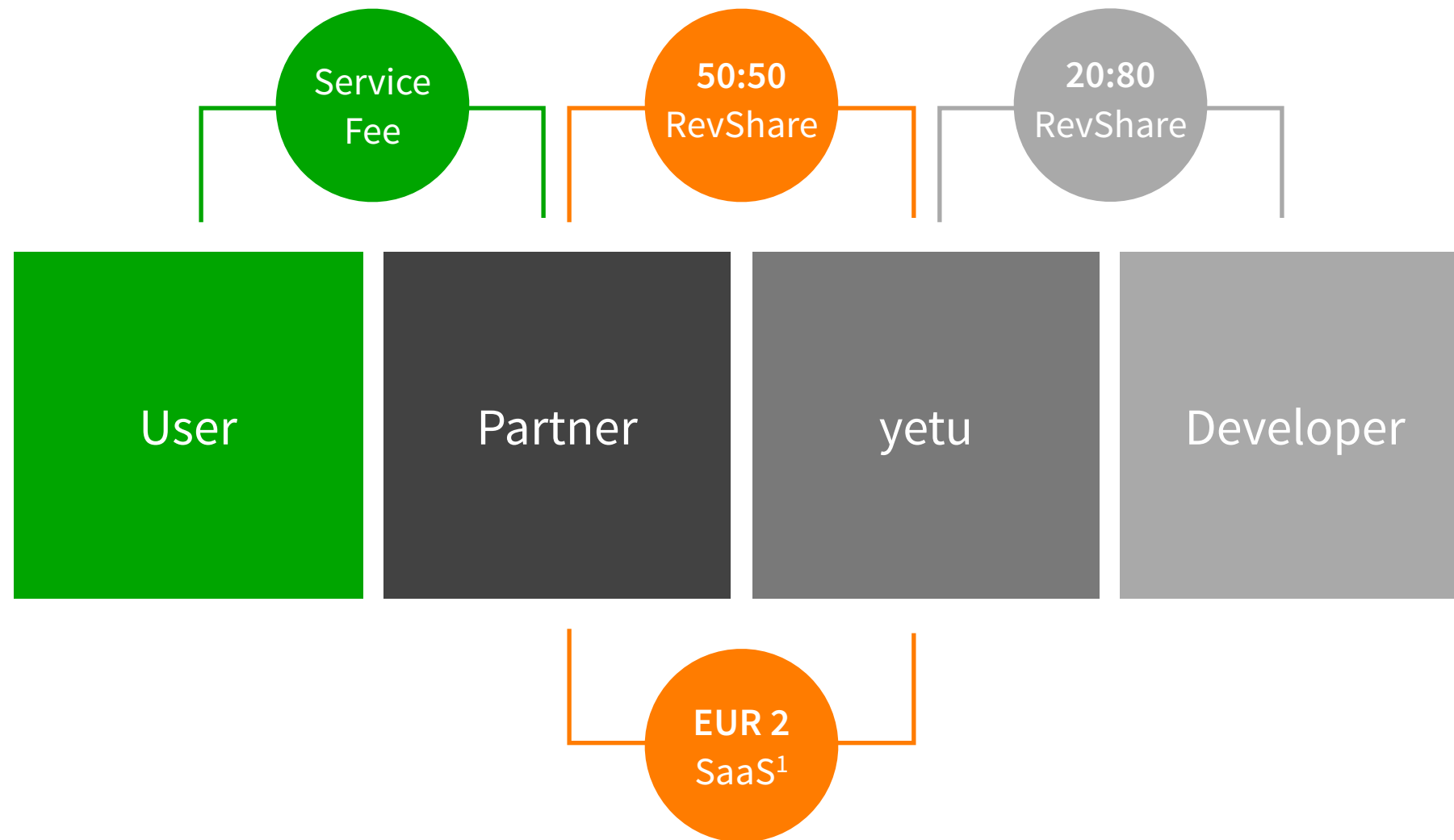
100% Open Source.



Architecture.



Business Model.



¹ monthly software-as-a-Service fee per home connected.
We ask our partners to enter into co-development for relevant use cases.



Discover
a new world at home.

The background features a complex network diagram with numerous nodes and connecting lines. The nodes are represented by various icons: people, servers, light bulbs, coffee cups, and other IoT-related symbols. The lines are thin and grey, creating a web-like structure across the entire image.

WUNDER BAR

Ecosystem for the IoT

@HoptonPaul

@relayr_cloud

<http://relayr.io>

Paul Hopton



Technological Revolutions

The real revolution is not in the creation of the technology, but the democratization of the technology. When you give it to a huge expanded group of people who come up with new applications, and you harness the ideas and the creativity and the energy of everybody. That's what makes a revolution.

- Chris Anderson, „Makers: The new Industrial Revolution“, Oct 2012

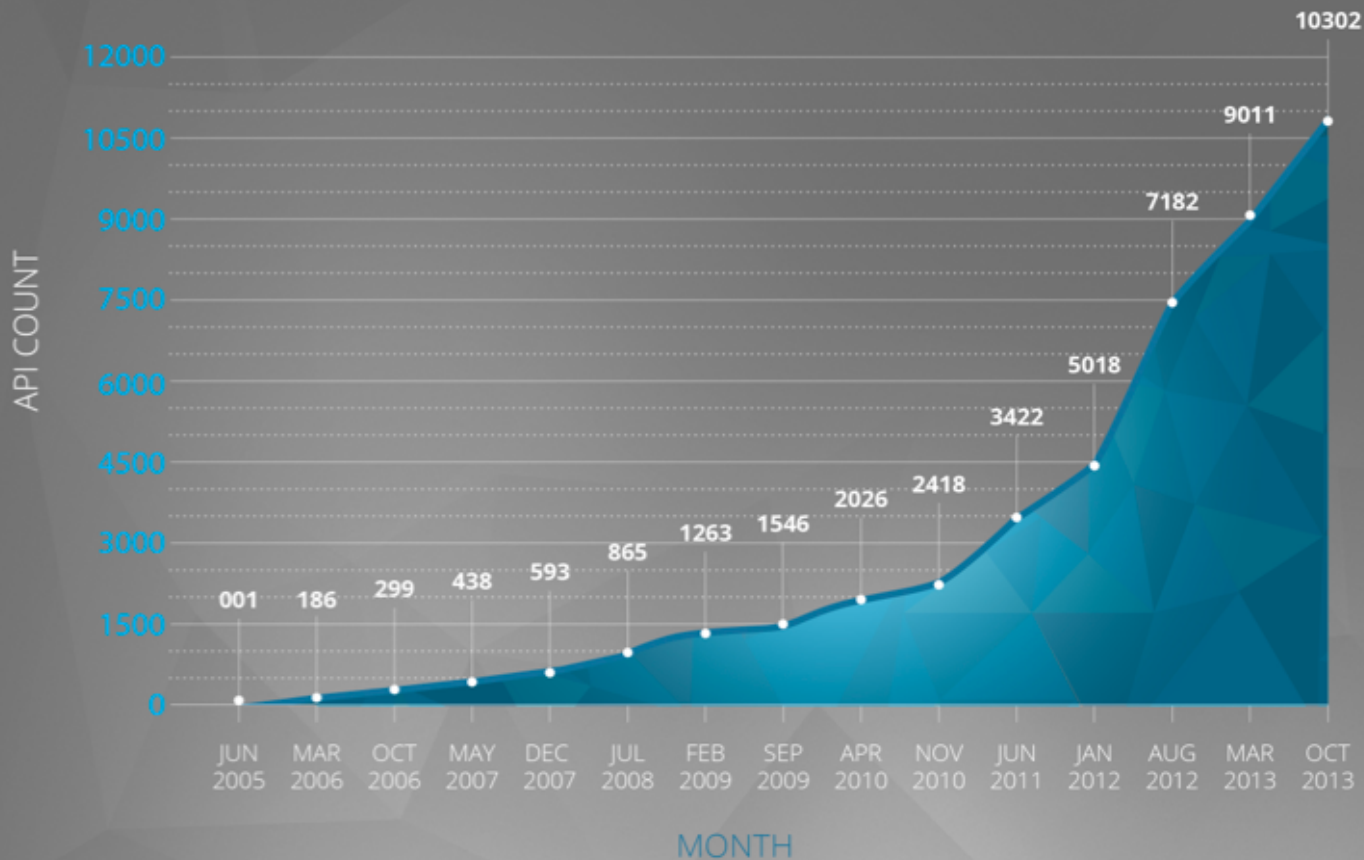


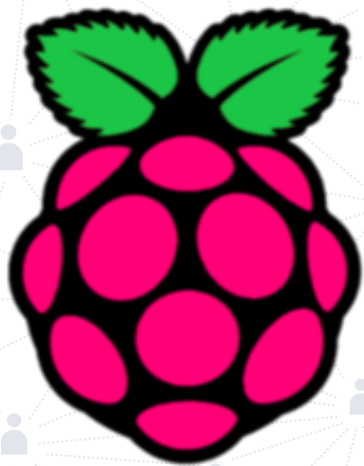
Revolutionary moments now



ProgrammableWeb

Growth In Web APIs Since 2005





RaspberryPi



ARDUINO

The image shows the Kickstarter logo, which consists of the word "KICKSTARTER" in a bold, sans-serif font. The letters "KICK" are dark grey, and "STARTER" is bright green. The background is white with a faint, light grey pattern of dots and lines, resembling a network or a map.

The background features a complex network diagram with numerous grey icons representing various IoT devices such as smart homes, wearables, and industrial sensors. These icons are interconnected by a web of thin, dotted grey lines, creating a sense of global connectivity and data exchange. The overall aesthetic is clean and modern, typical of technology-themed presentations.

IoT Revolution???



Lets connect stuff and be cool

Hardware is Hard



The background of the slide is a light gray network diagram. It consists of numerous small, stylized human icons (silhouettes) connected by thin, dotted lines. These connections form a complex web of triangles and other geometric shapes, suggesting a highly interconnected system or community. Scattered throughout this network are various small, light gray icons representing different types of technology and products, such as smartphones, laptops, speakers, and other electronic devices. The overall aesthetic is clean, modern, and tech-oriented.

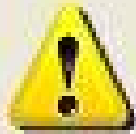
Problem 1: creating a connected product



The background features a complex network diagram with numerous nodes and connecting lines. The nodes are represented by various icons, including human figures, light bulbs, gears, and other symbols, all rendered in a light gray color. The lines connecting the nodes are thin and dotted, creating a web-like structure across the entire image.

```
try {  
    create_product()  
    design_data_model()  
    integrate_radio_technology()  
    certify([CE, FCC])  
    build_cloud_platform()  
    generate_app()  
}  
  
catch (TooDamnHardException tdh) { //WTF }  
catch (NoMoreMoneyException nmm) { //WTF }
```

Microsoft JScript compilation error



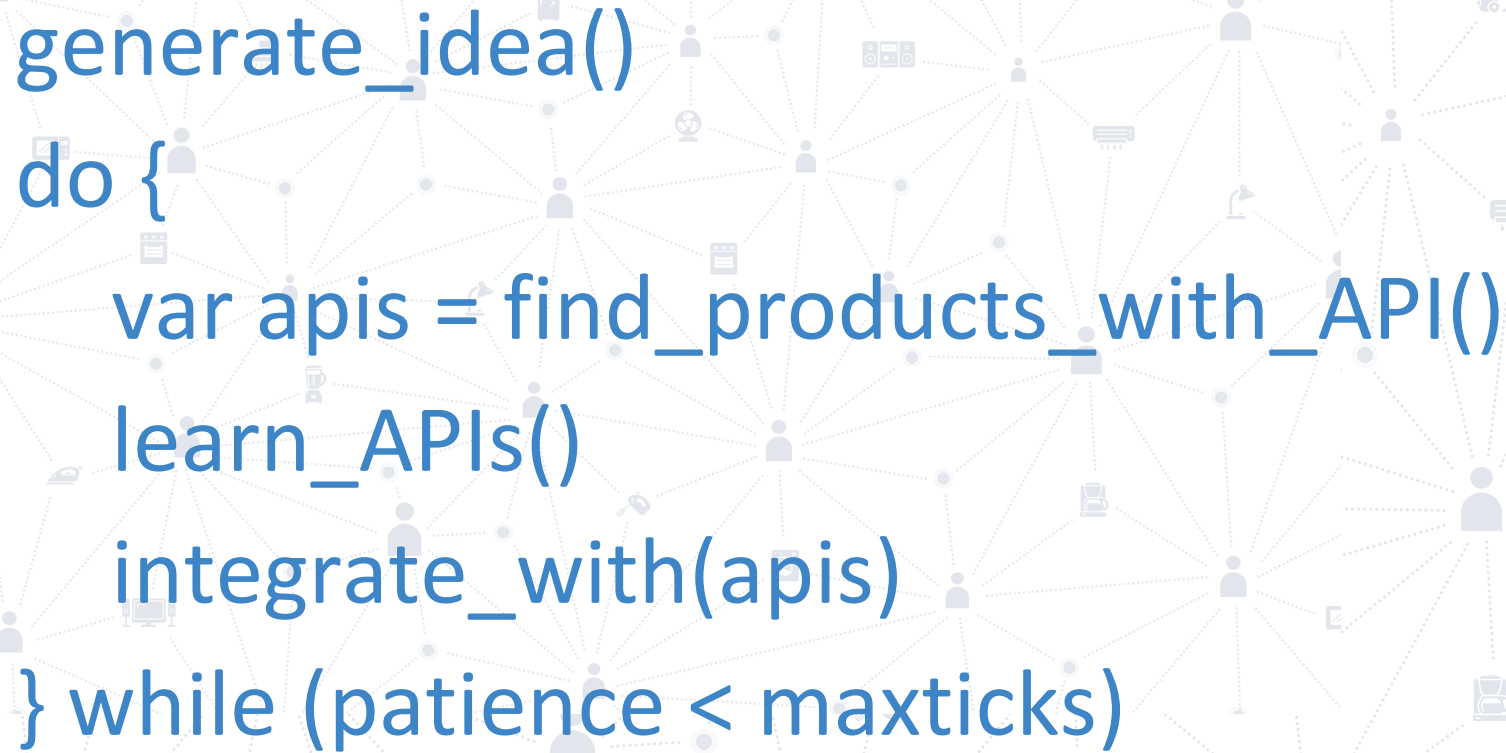
Expected ';'

OK

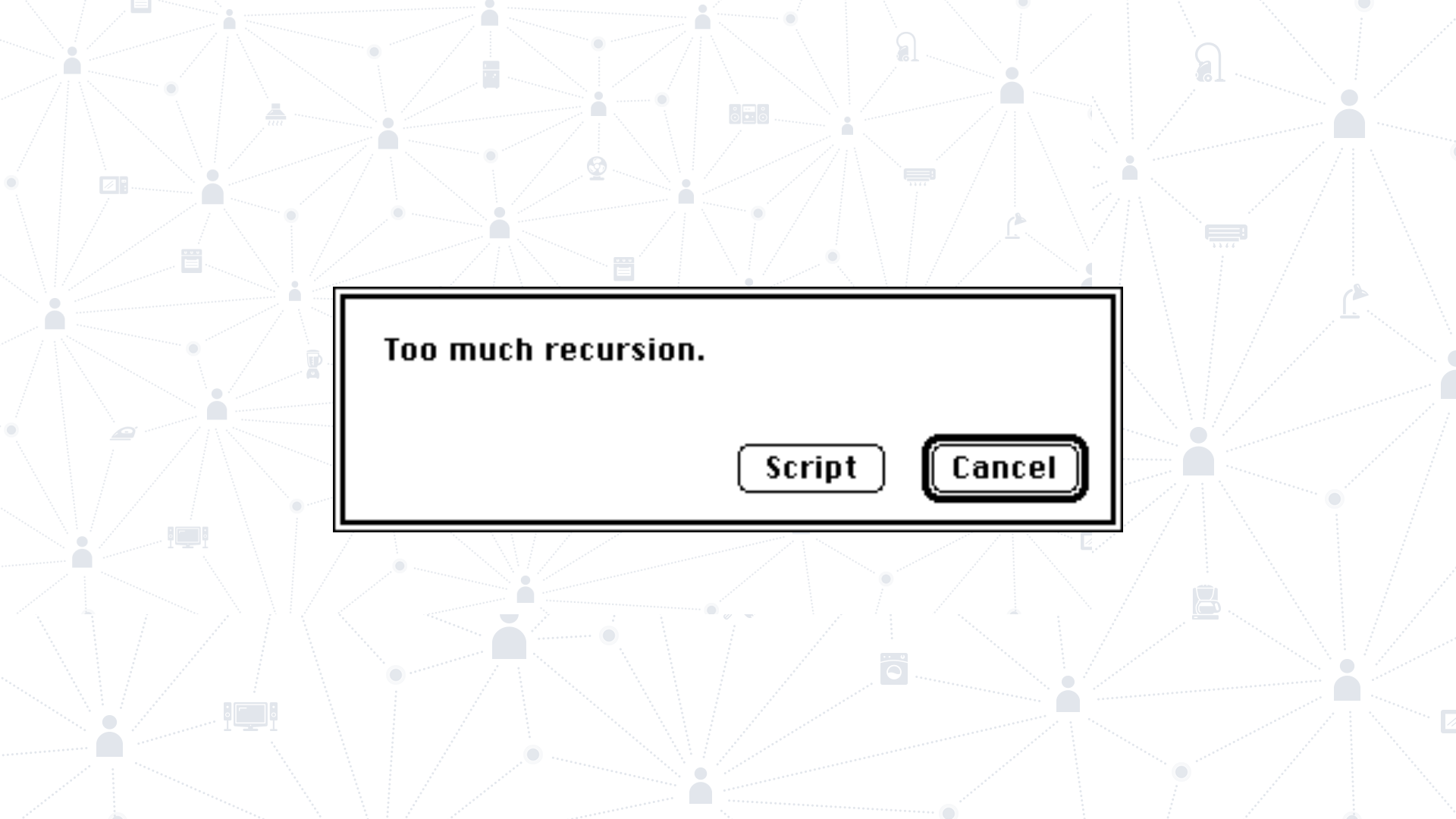
The background features a complex network diagram composed of numerous small, light-blue icons connected by thin, dotted lines. These icons represent various IoT devices and human users, including smartphones, laptops, smart speakers, and stylized human figures. The network is dense and interconnected, creating a web-like pattern across the entire slide.

Problem 2: Creating an IoT app



The background features a complex network diagram with numerous nodes and connecting lines. Each node is accompanied by a small, light-blue icon representing various concepts such as people, technology, and communication.

```
generate_idea()  
do {  
    var apis = find_products_with_API()  
    learn_APIs()  
    integrate_with(apis)  
} while (patience < maxticks)
```

The background of the image is a light gray network pattern. It consists of numerous small, light gray human-like icons (silhouettes) connected by thin, dotted lines. These icons are arranged in a way that suggests a global or interconnected network, with some icons having more connections than others. The overall effect is a subtle, textured background.

Too much recursion.

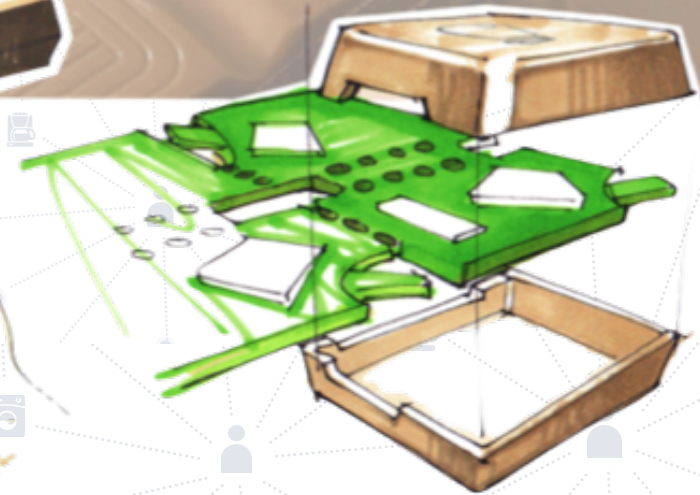
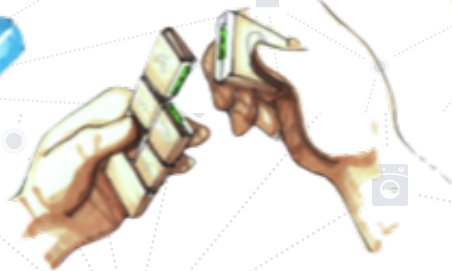
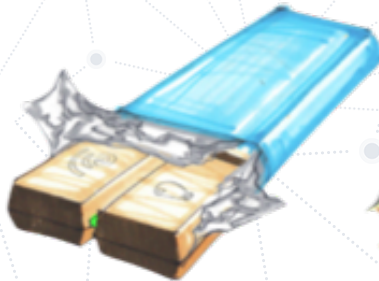
Script

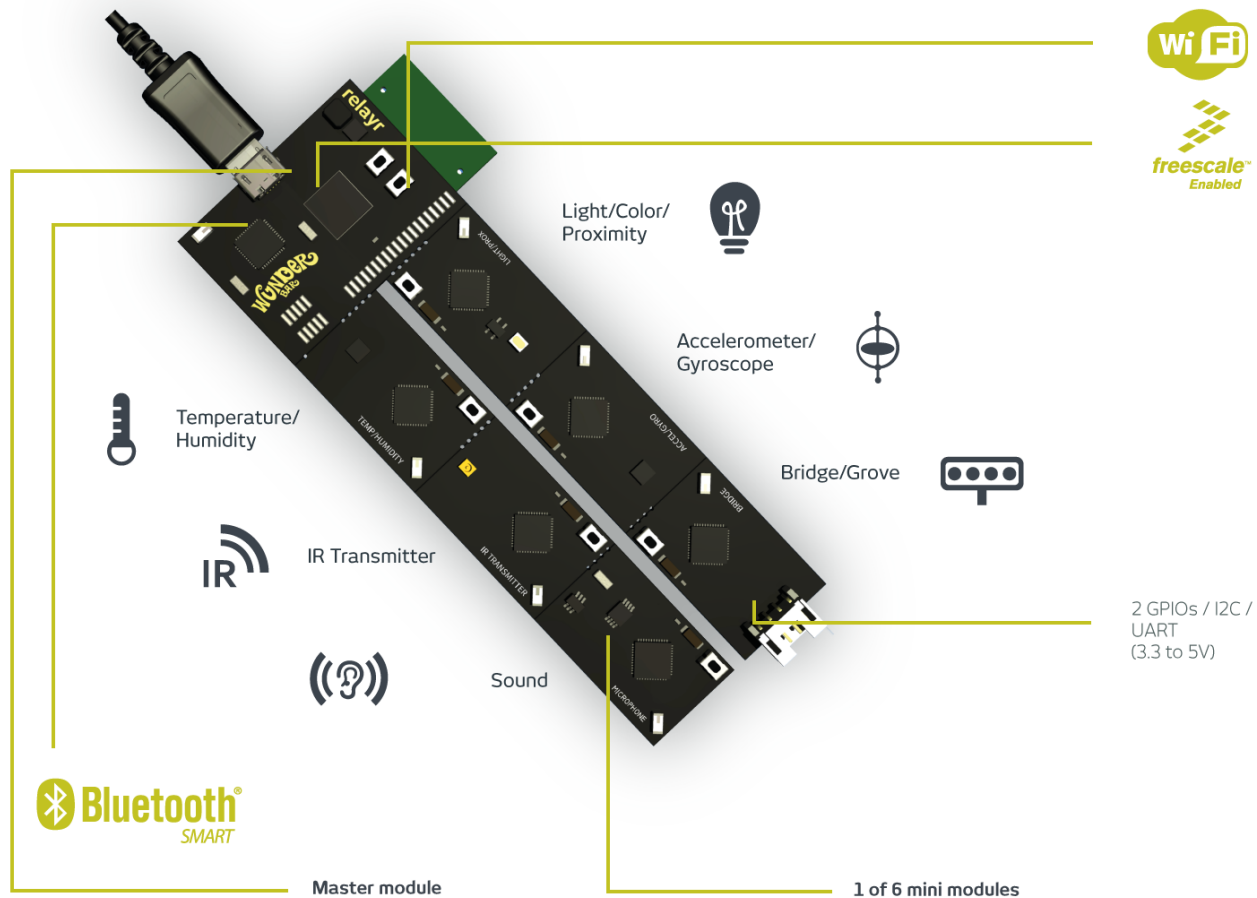
Cancel



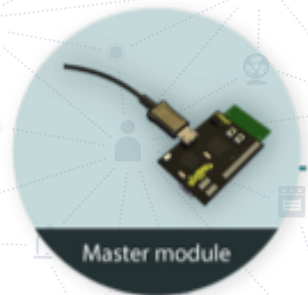
Our Solution

WunderBar

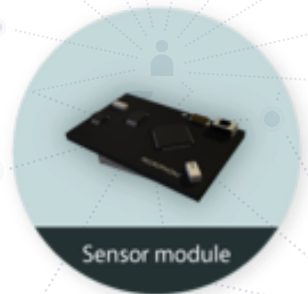




v1. Platform



Master module



Sensor module

MQTT

Device
Integration
Layer

MOSCA
MQTT
Broker

Redis

MQTT

Routing
Component

Encryption

WSS

PubNub

(External
distribution
service)

WSS

App

Bringing the code back home

REST API

iOS Framework

Android SDK

Python Library

JS MicroLibrary



Show me the code

```
1 $( document ).ready(function () {  
2  
3     var relayr = RELAYR.init({  
4         appId: "f0f6dd82-6de6-4440-861e-b4d959bc7b3d"  
5     });  
6  
7     relayr.devices().getDeviceData({  
8  
9         //provide all the stuff we need  
10        token: "EDAKp046g53E8biA2Cx6Satwfv2Q4HNM",  
11        deviceId: "65c3b24b-51fe-4619-b94c-18eb1377c8ec",  
12  
13        //callback for incoming data  
14        incomingData: function(data){  
15  
16            //Do whatever you want with your sensor data here  
17            console.log(data);  
18            console.log(data.clr);  
19            console.log("wooooha!");  
20  
21        }  
22    });  
23  
24 }).
```




Show me the solutions

INSUL ANGEL

Helps diabetics keep their insulin safe

InsulAngel is the answer to spoiled insulin due to temperatures too hot or too cold! It's a bean you put with your insulin pens/pump and an app on your phone that notifies you before it's out of the safe temperature range. Live on Kickstarter in October 2014.

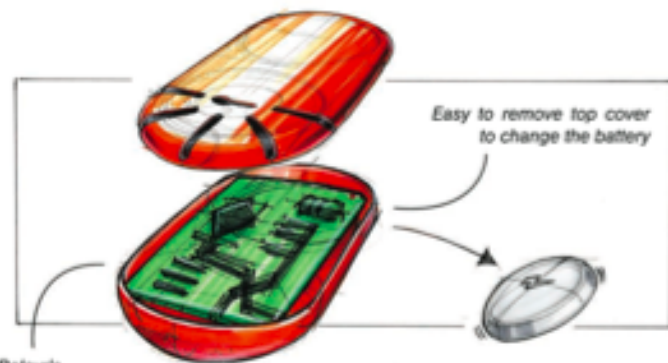
Be the first to know when InsulAngel is live on Kickstarter!

GO





InsulAngel is a small device that measures the temperature of inside the insulin pen carrying-case. It will notify the user when the temperature of the case is critical.



Easy to remove top cover to change the battery

Casing for the Relayr's temperature Wunderbar





Welcome into a new way to manage your time as a parent...

BabyBICO allows you to provide the best sleeping environment for your baby and helps managing your time as a parent.

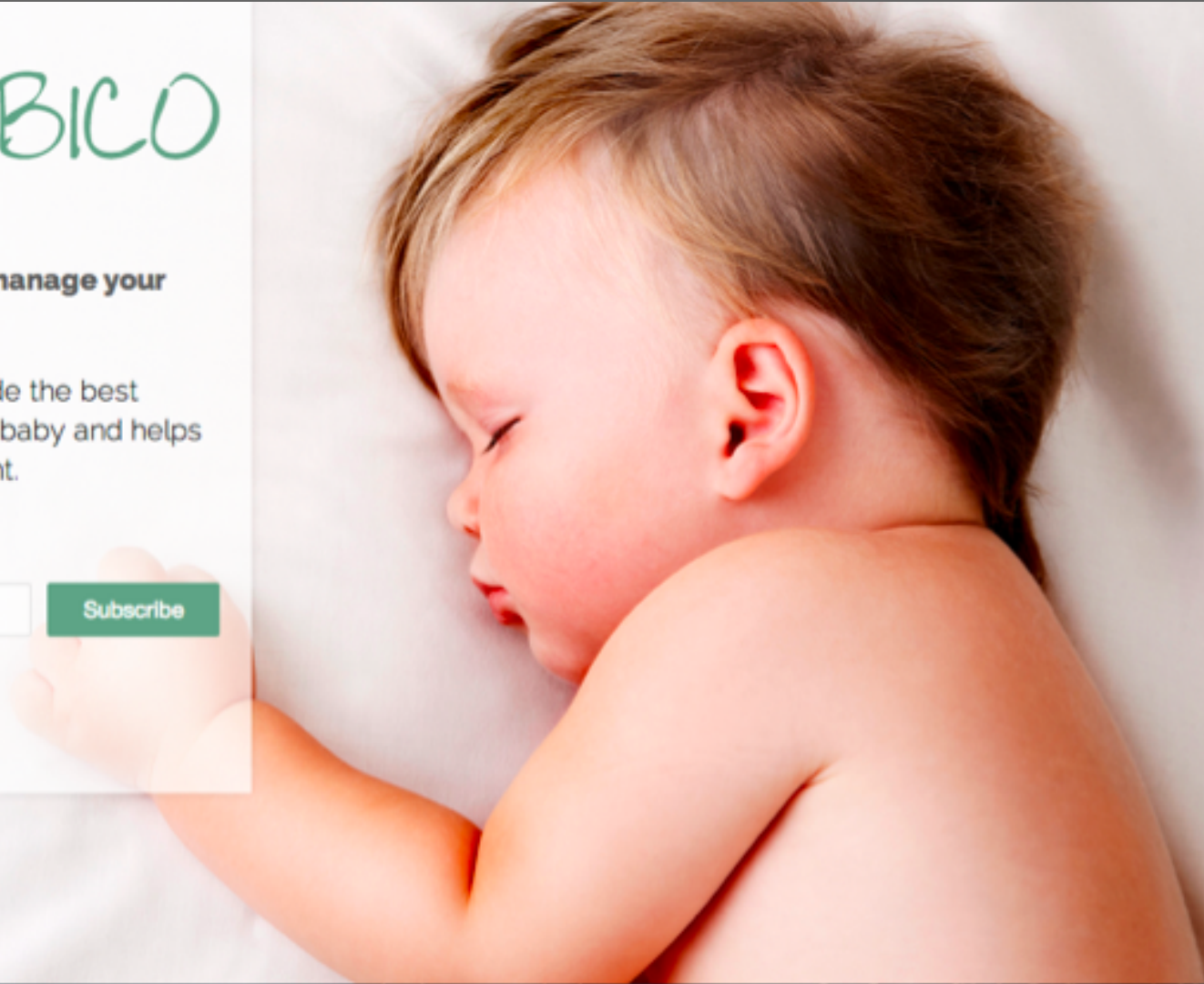
Get notified at launch

Subscribe

By submitting this email, I accept the [privacy policy](#).



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The background features a complex network diagram composed of numerous small, light-blue icons connected by thin, dotted lines. The icons include stylized human figures, server racks, light bulbs, and various other symbols representing technology and communication. The overall effect is a sense of a global, interconnected network.

Start making things today!

<https://developer.relayr.io>

[@HoptonPaul](#)

[@relayr_cloud](#)

<http://relayr.io>