

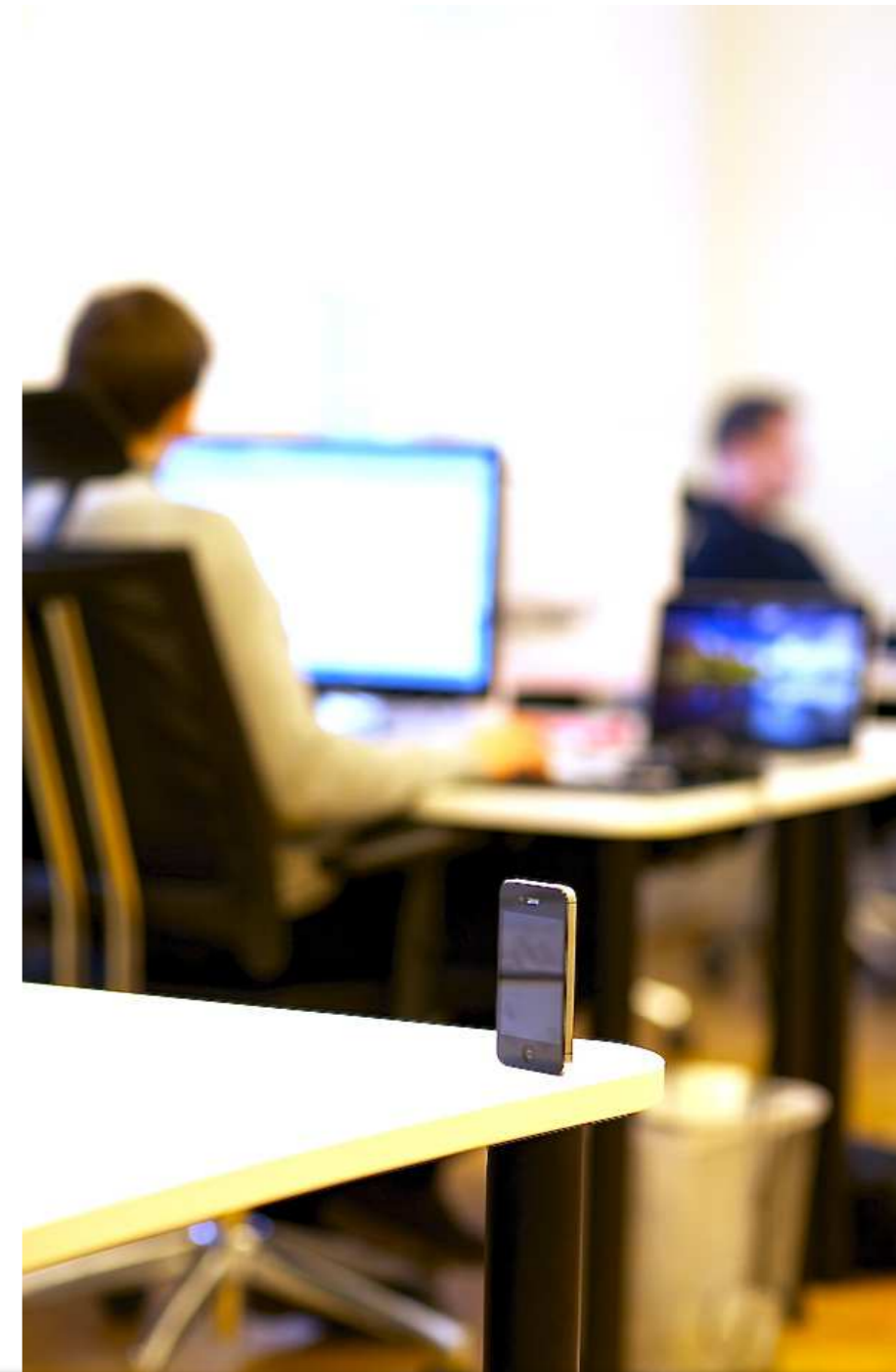
MACHINE TO HUMAN

Lessons learned connecting a car

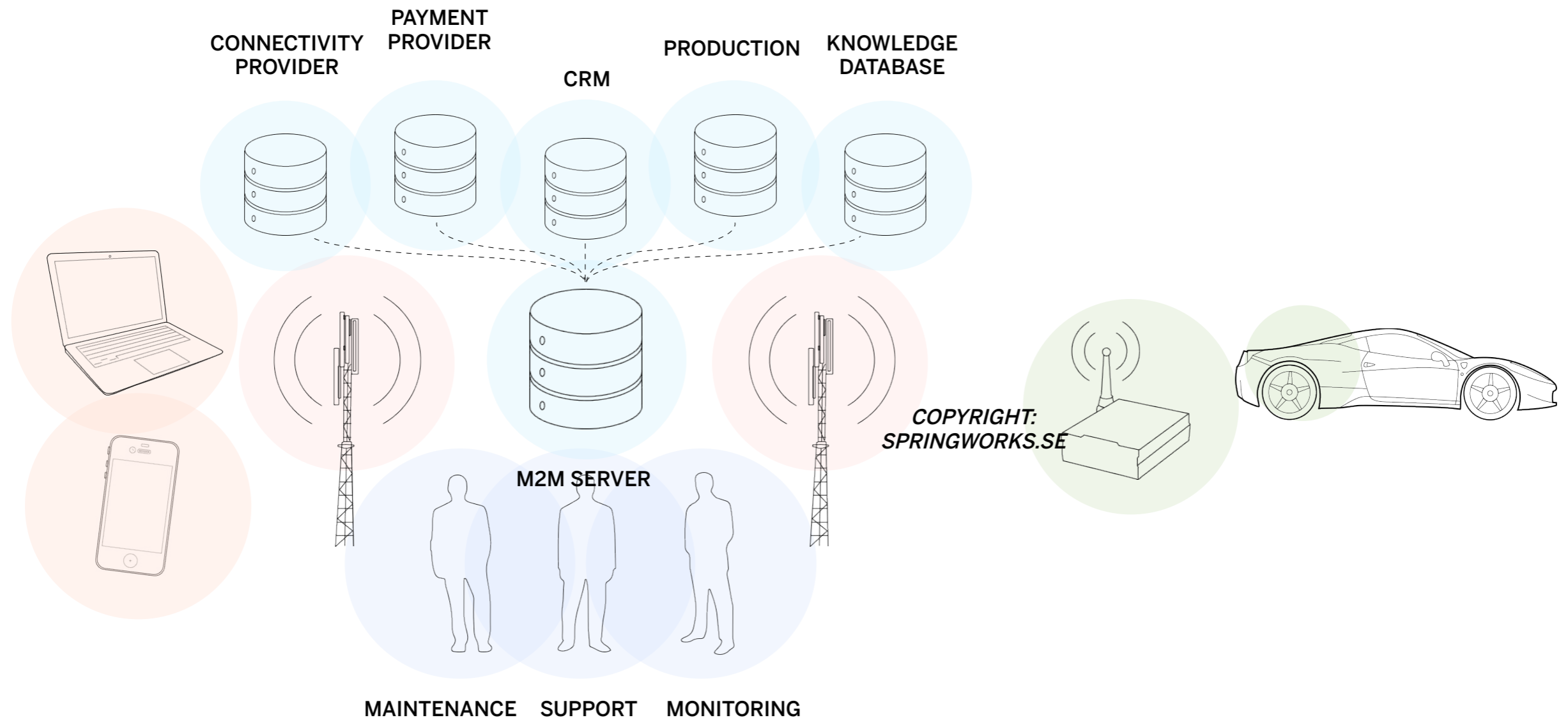
# Springworks are specialized in connectivity applications for vehicles

Team of senior project managers and developers that have worked together as a team the past 9 years.

We are very interested in how users interact with vehicles.

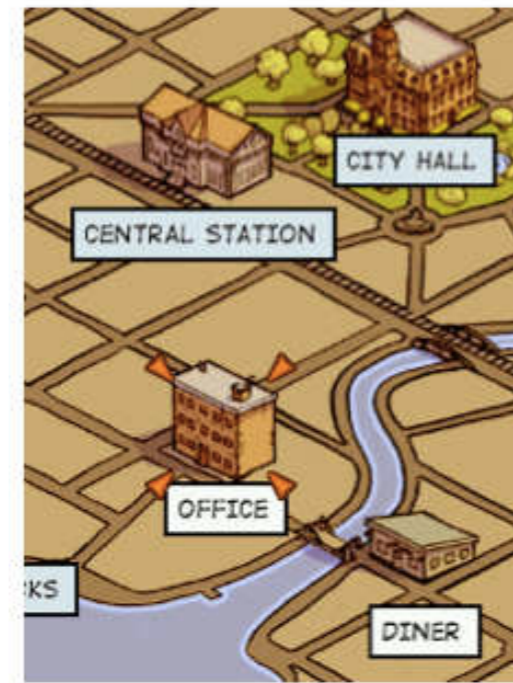
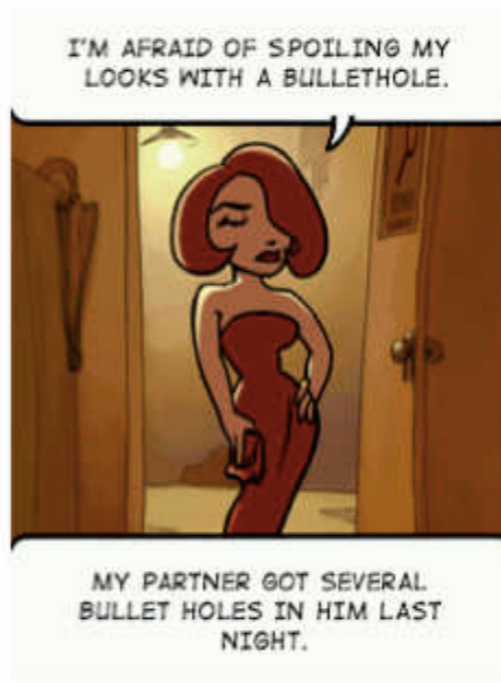


# Springworks Machine to Human Solution



In order for any solution to bring it's promised value it needs to be used...

... so I trained 7 years as a game producer...



Dirk Dagger and the Fallen idol

Gold Medal Best Game Play - International Mobile Gaming Awards 2008



There are at least two ways  
to make people use solutions

# Enjoyable



## 30 seconds rule

# Valuable



## Business case

# Volvo on Call

In the beginning of 2010, Springworks were part of creating one of the first connected car solutions in the world.

Volvo on Call is available on iPhone, Android and Windows Phone. It supports all Volvo's car models and is translated into 13 languages.

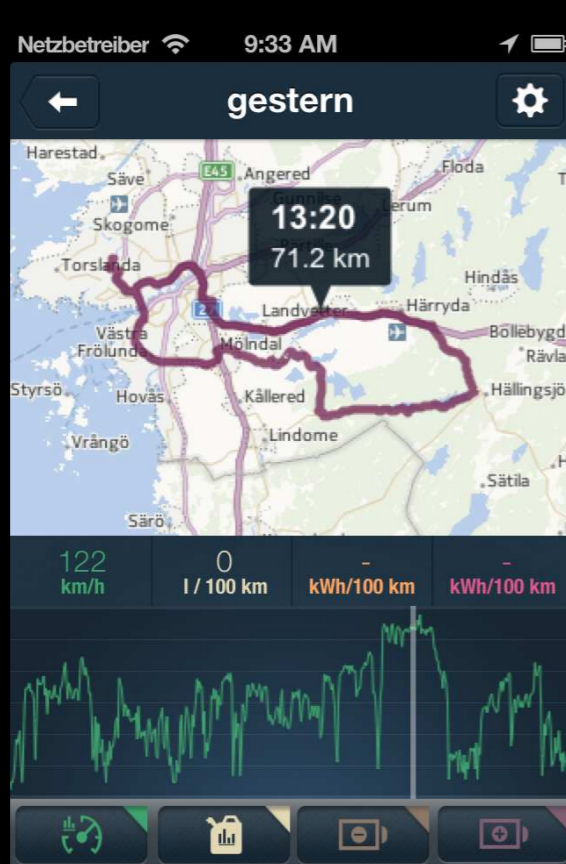
The Volvo on Call solution has significantly increased after market sales, created an immense uptake on Volvo's eCall service and increased the second hand value.

The solution and the applications have been awarded internationally several times and are considered best in class.

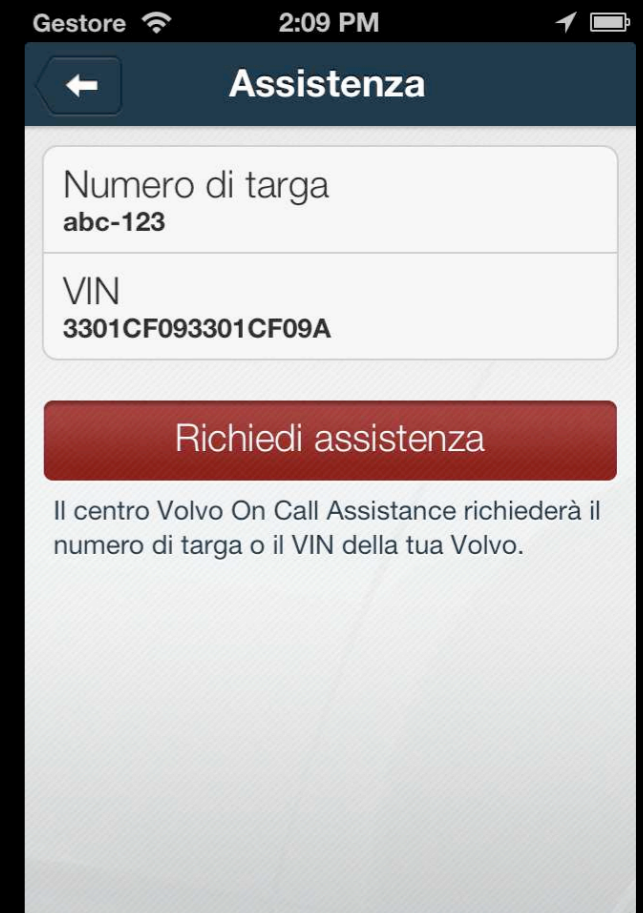




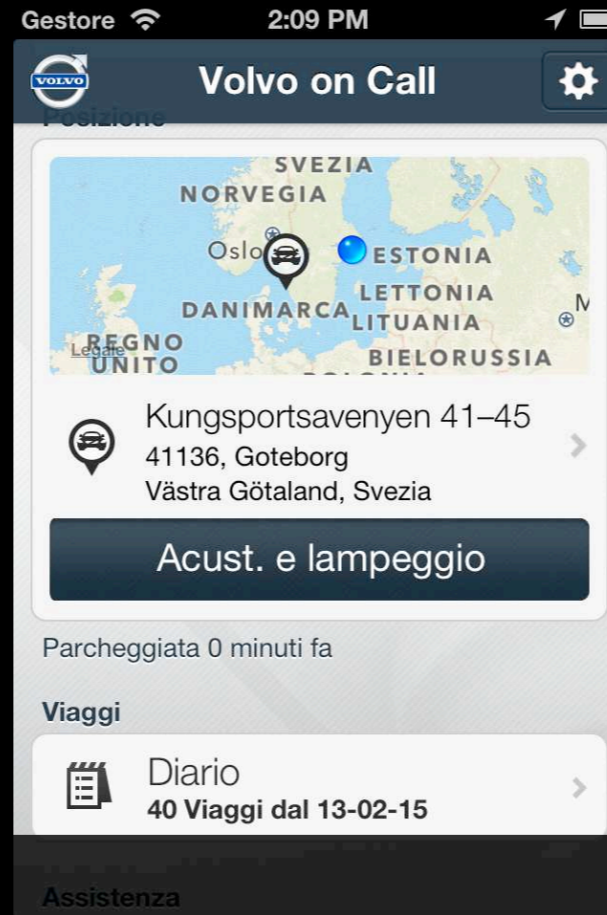
# Volvo on Call



# Volvo on Call



# Volvo on Call



I will present 8 lessons learned

There is a true risk in our line of business that we will create more annoyance than value.



Lesson learned 1 (8):

Good power management & good connectivity

What do you need for a connectivity solution to bring a decent added value ?

# You need...

Connectivity



Coverage

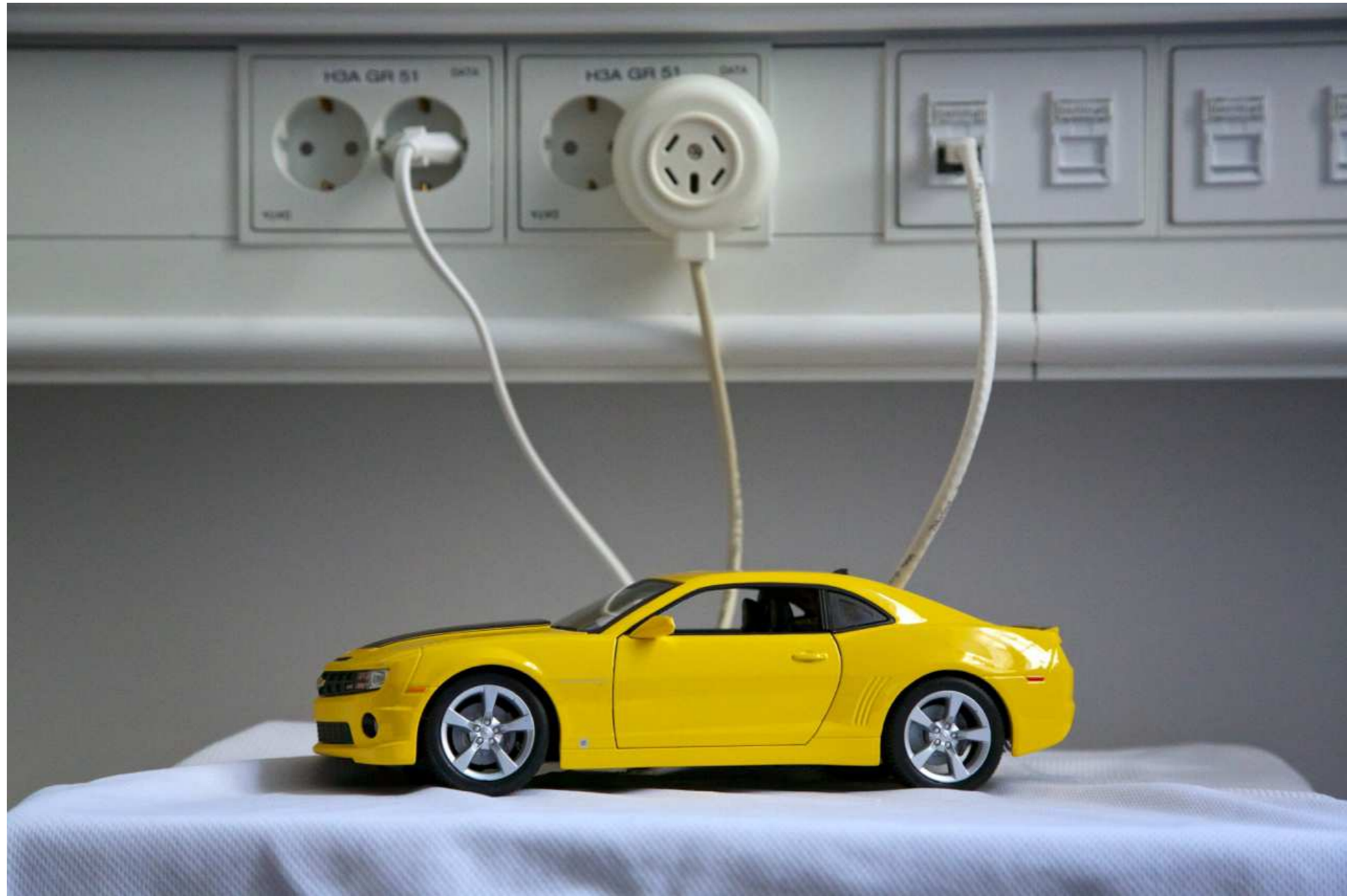


Power



That roughly depends on







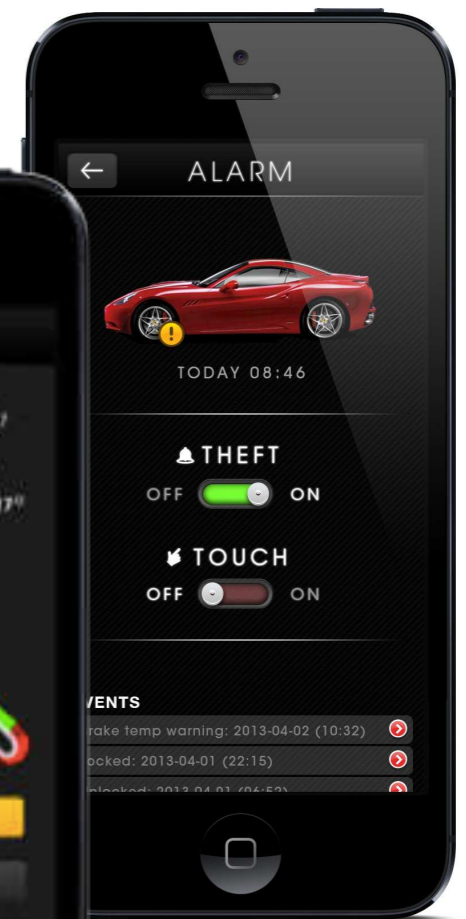
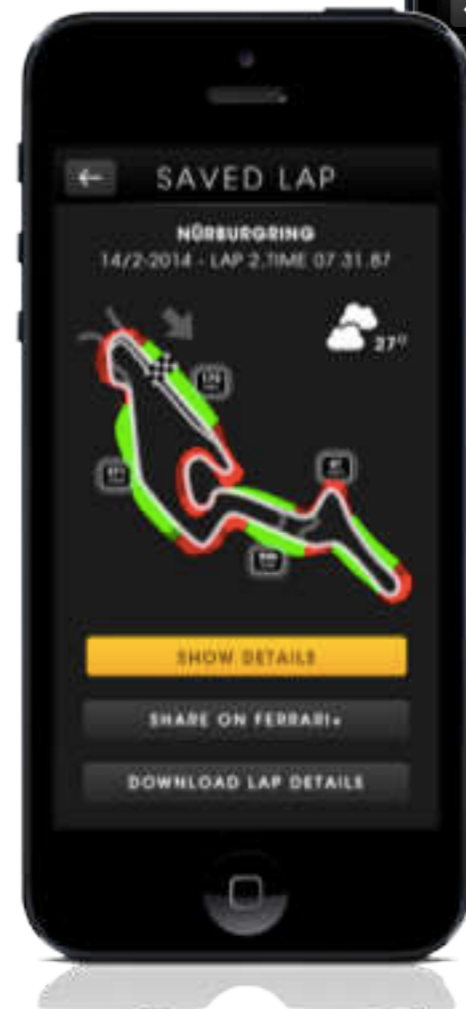
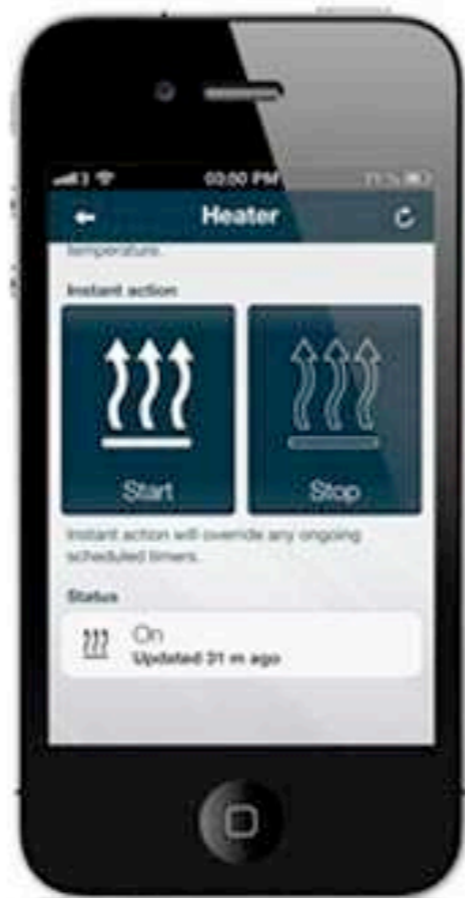
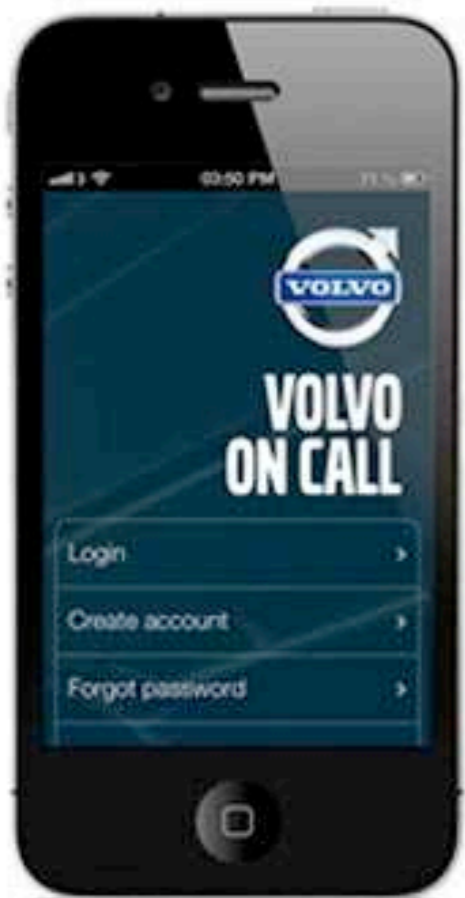


Lesson learned 2 (8):  
Going all the way

Use more technology to provide less  
information.

1. Sensor 142: "1"	Data available from one sensor	Low value
2. "Your car is unlocked"	Info available from one sensor	Added value
3. "Your car is unlocked, You are at position X"	Info available from combined sensor	I know where I am, why tell me?
4. "Your car is unlocked" (info only presented when you are away from your car)	Info presented in context, reducing unwanted messages	Added value
5. "Perhaps you should lock your car?"	Recommendation on how to act	Added value, recommendations are more valuable than info.
6. "You car is unlocked, Do you want to lock it? Yes/No"	Recommendation & possibility to act	Added value
7. "You forgot to lock your car, it was taken care of."	Not even a need to act, the car is automatically behind the scenes.	Added value
8. "Click" (sound as car locks...)	Why bother you with this?	This is what you want. Admit it!

Lesson learned 3 (8):  
About the car owners





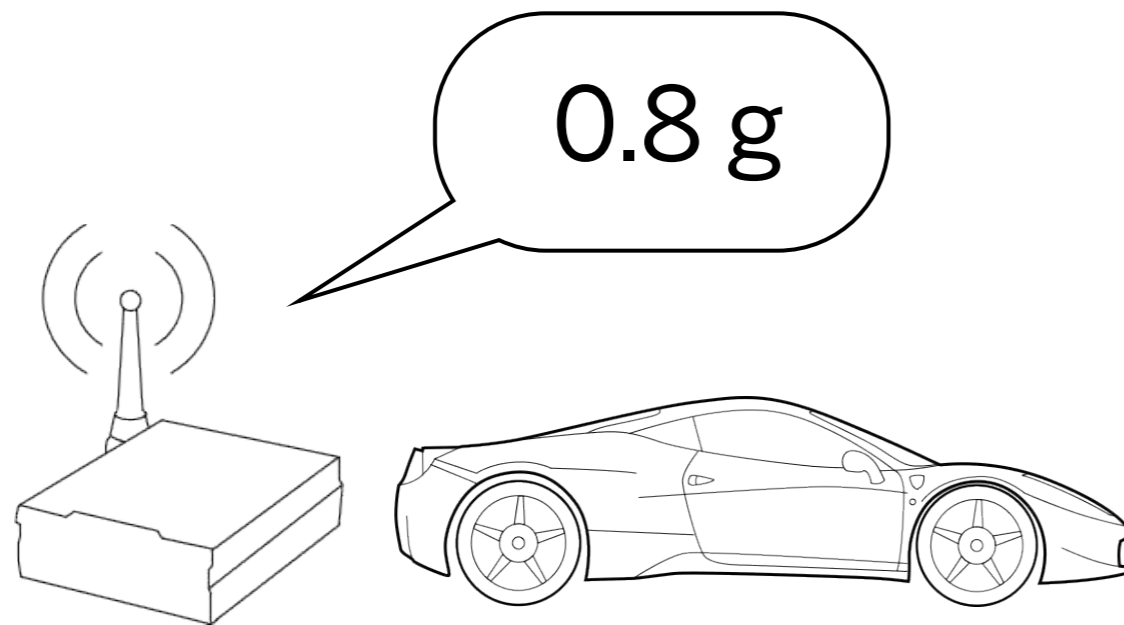
# Why connect a car from an owners perspective?

1. Reassurance
2. Bragging Rights
3. Make everyday life more convenient



# Lesson learned 4 (8): Guesswork

# Guessing is knowing in the long term...



=

Hard break ?

Crash.....?

# Guesswork

- Implement feedback loops
- Set initial threshold values
- Fine tune values when system is live
- Combine sensors to support your guess



# Lesson learned 5 (8): Deep integration

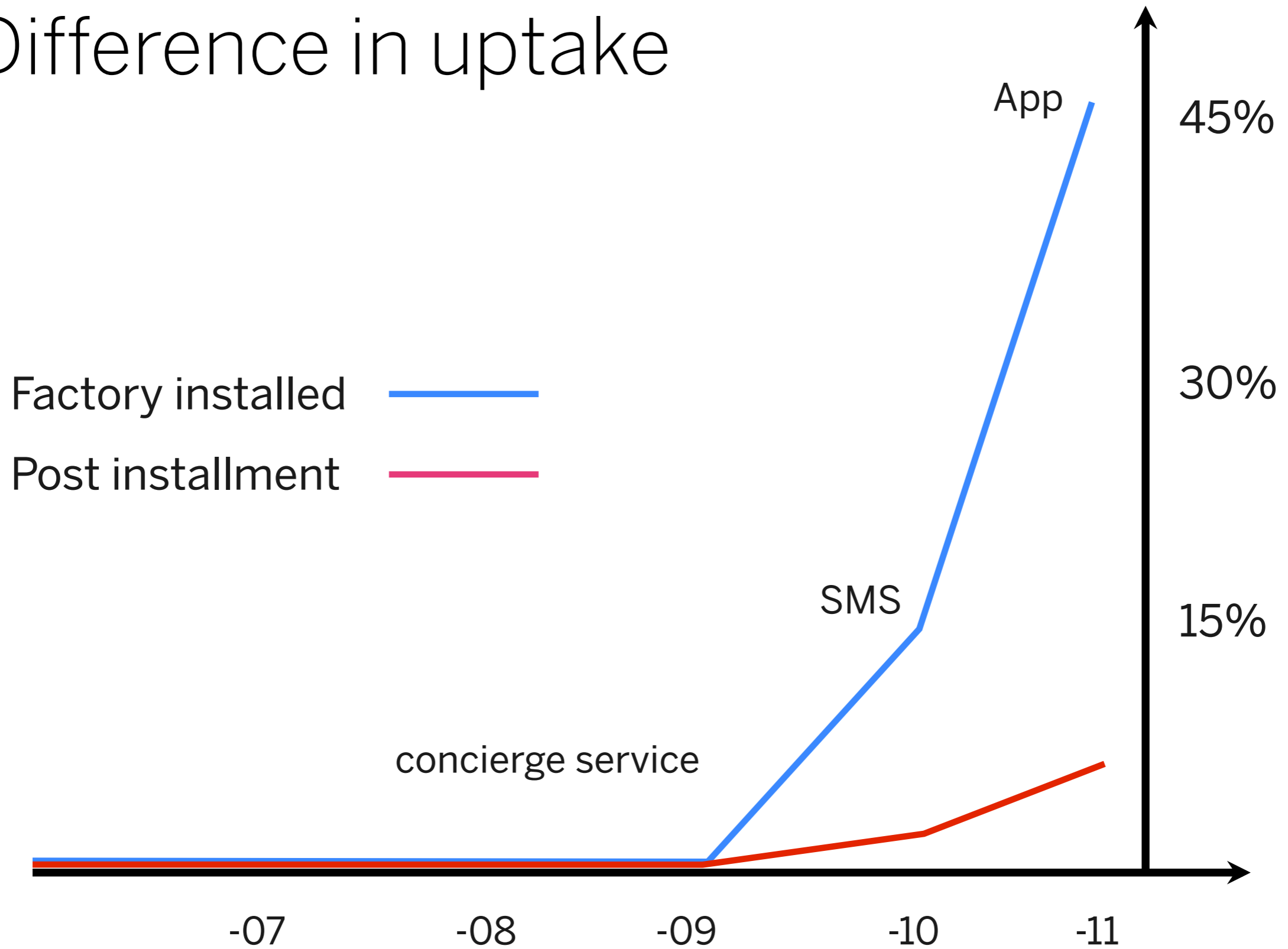


# More sensors is more value...





# Difference in uptake

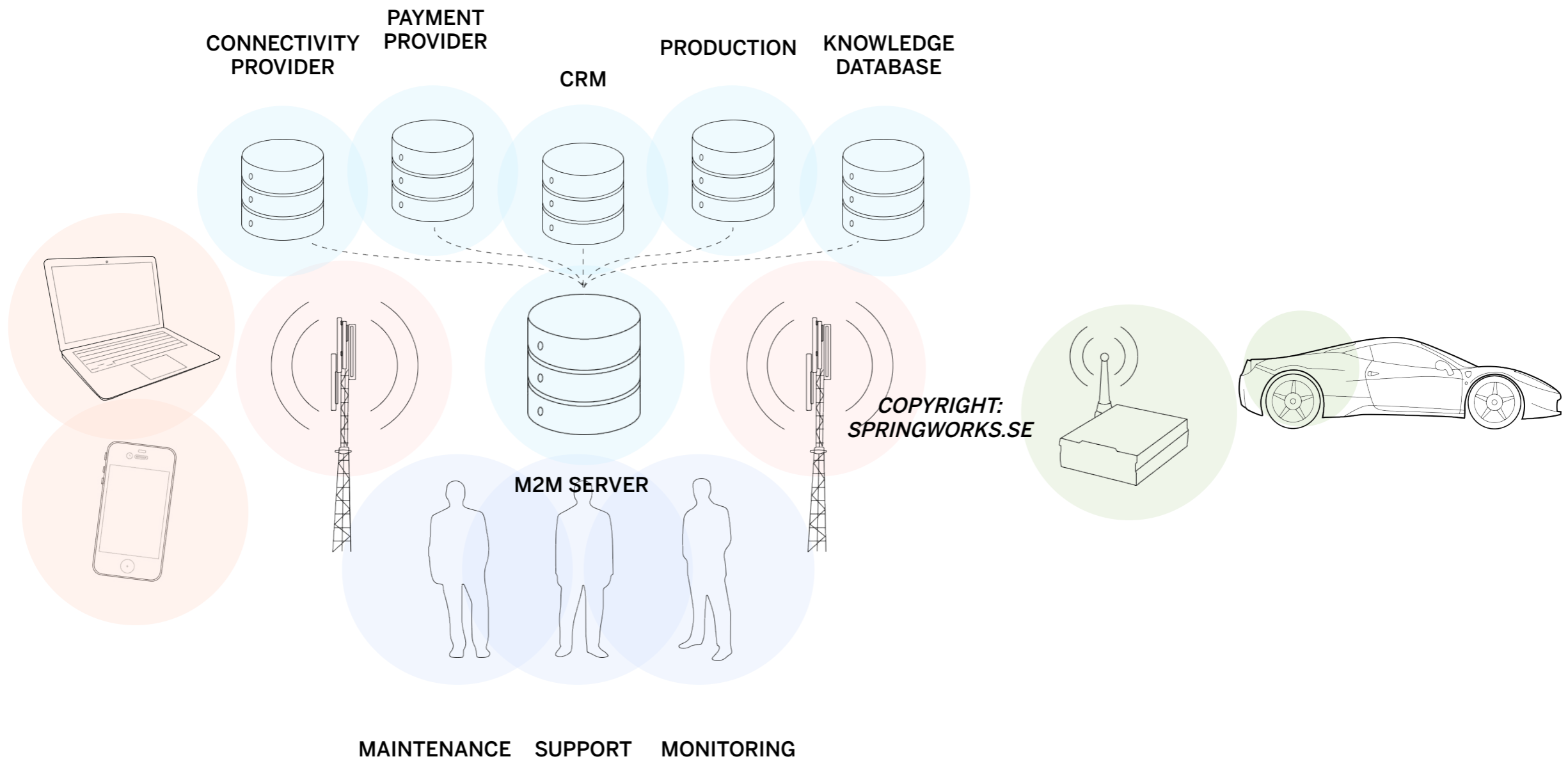


# Why...

1. It's only a low cost when you purchase the car
2. Pre installed looks better
3. Pre installed is cheaper
4. Pre installed is less huzzle
5. Pre installed gives access to more sensors

Lesson learned 6 (8):  
Hide latency

# Springworks Machine to Human Platform



Half a second delay caused a 20% drop in traffic.

Half a second delay killed user satisfaction...

Marissa Mayer, Google IO, 2008

# Video time



Video time


Lazy loading

Lazy Loading...

- Fuel
- Distance to empty
- Avrg fuel cons.
- Odometer
- Average speed
- Trip meter

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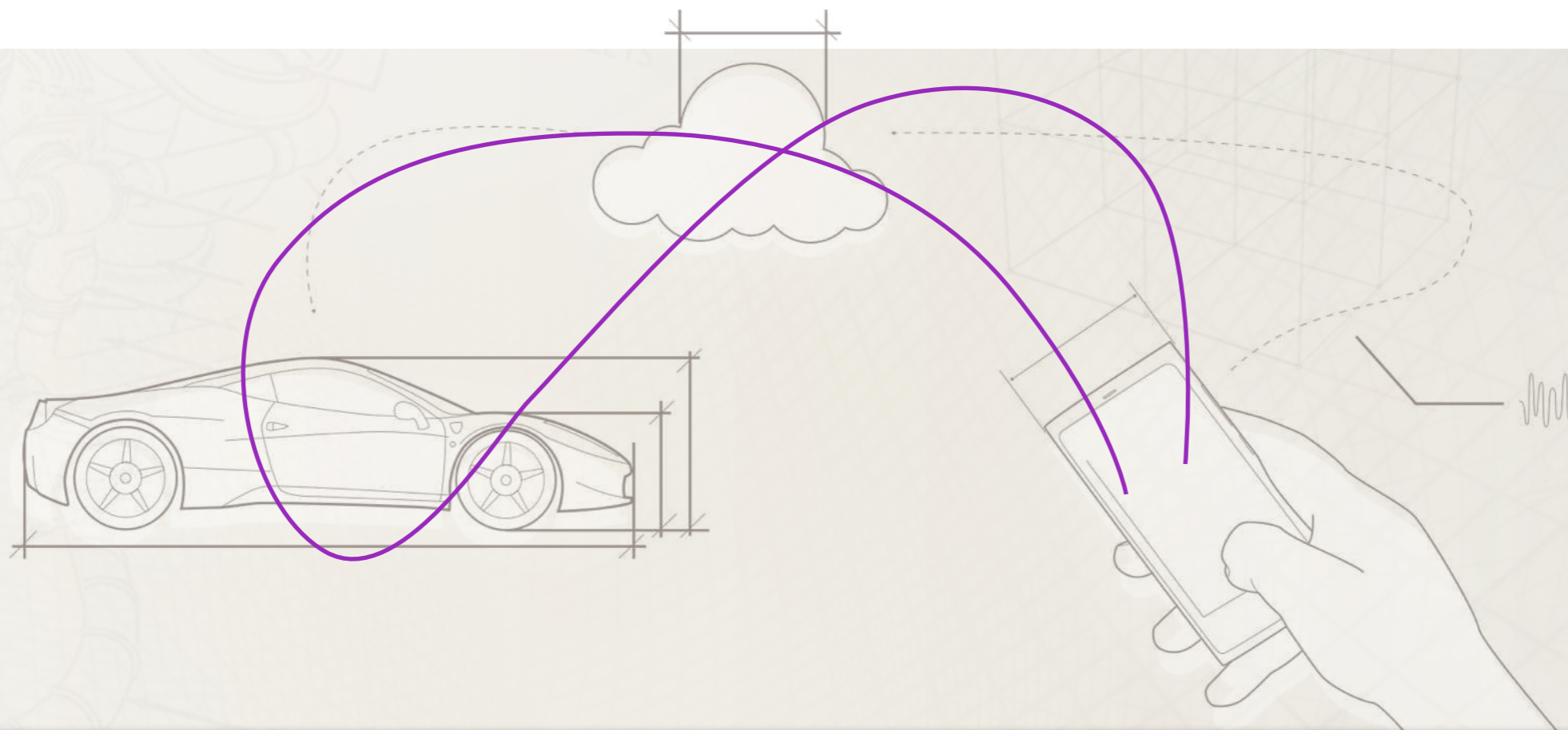
Regular Loading...



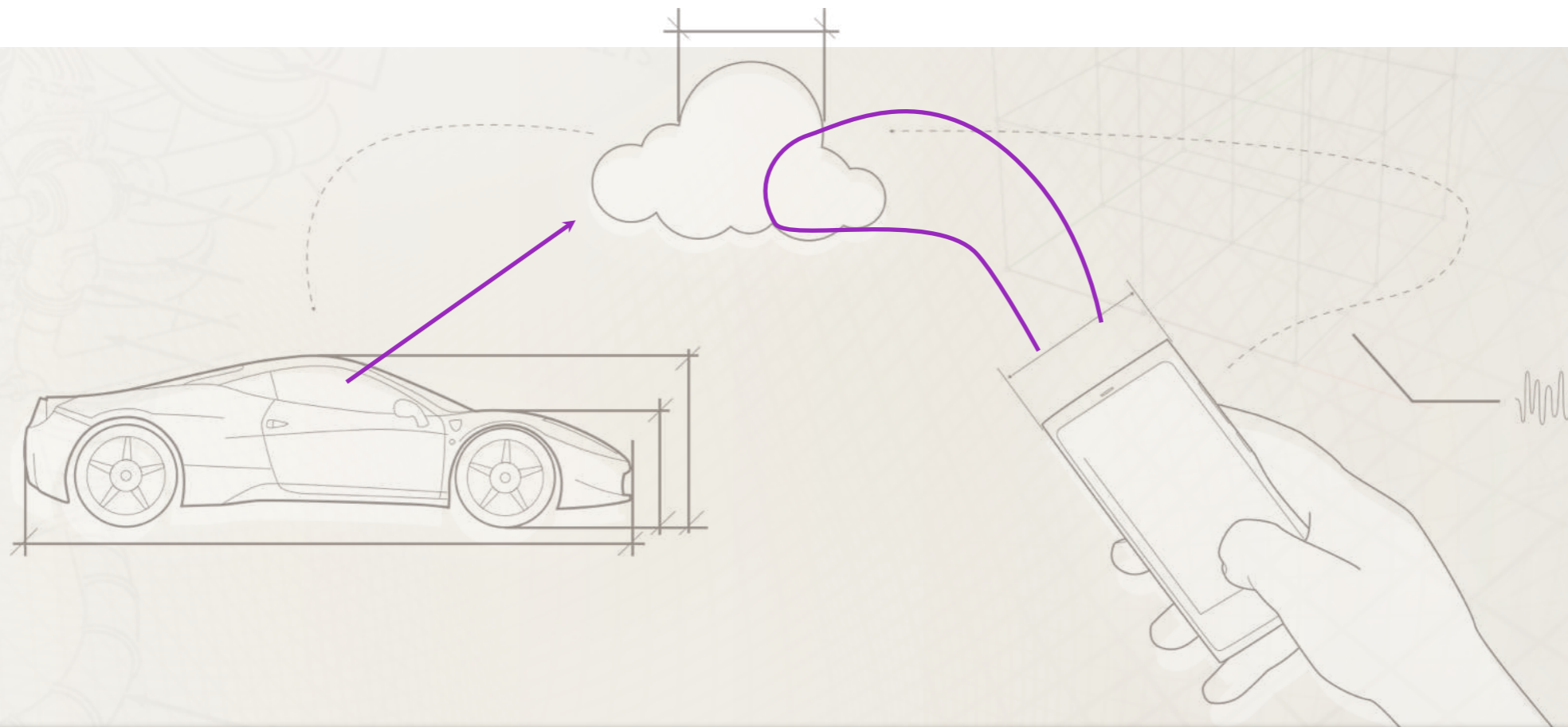
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Lesson learned 7 (8):  
Avoid the roundtrip

Don't make the round trip, unless  
you have to...



# Upload the latest and greatest to the cloud !



Lesson learned 8 (8):  
Convince by connect

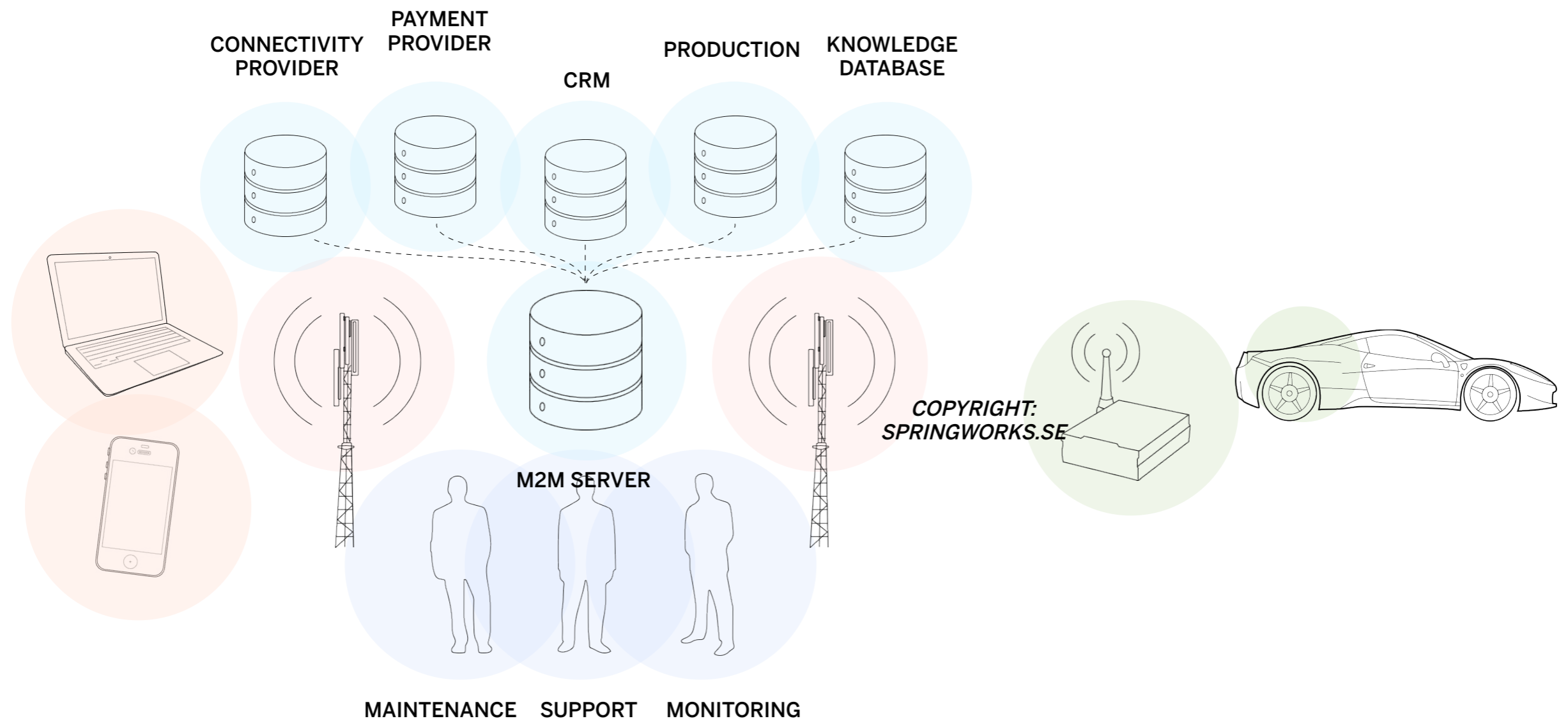
Seeing is believing!

Connect the first few things for free...

If you want help with that, we are all game.



# Springworks Machine to Human Solution – a demo tool



# Summary

# My humble advice for our promising business...

1. Good connectivity and good power management
2. Go all the way !
3. Know your customers
4. Guesswork - Make sure you can change parameters when live
5. Deep integration
6. Hide latency
7. Avoid the roundtrip
8. Convince by connect

Thank you

 SPRINGWORKS

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