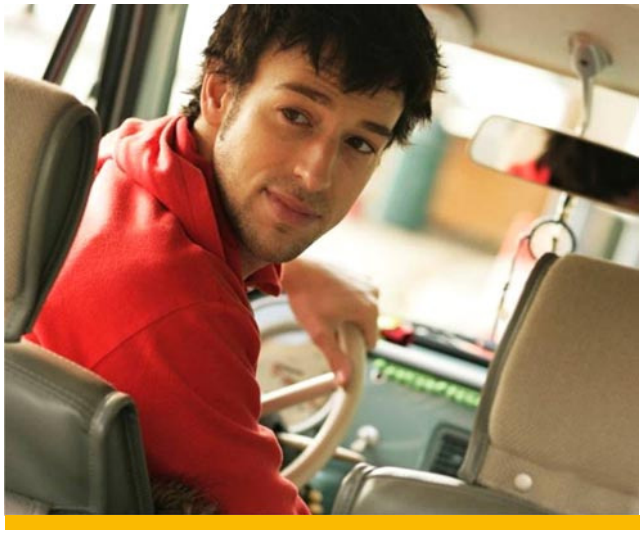
aktiv

Traffic Management

Active Safety



Cooperative Cars

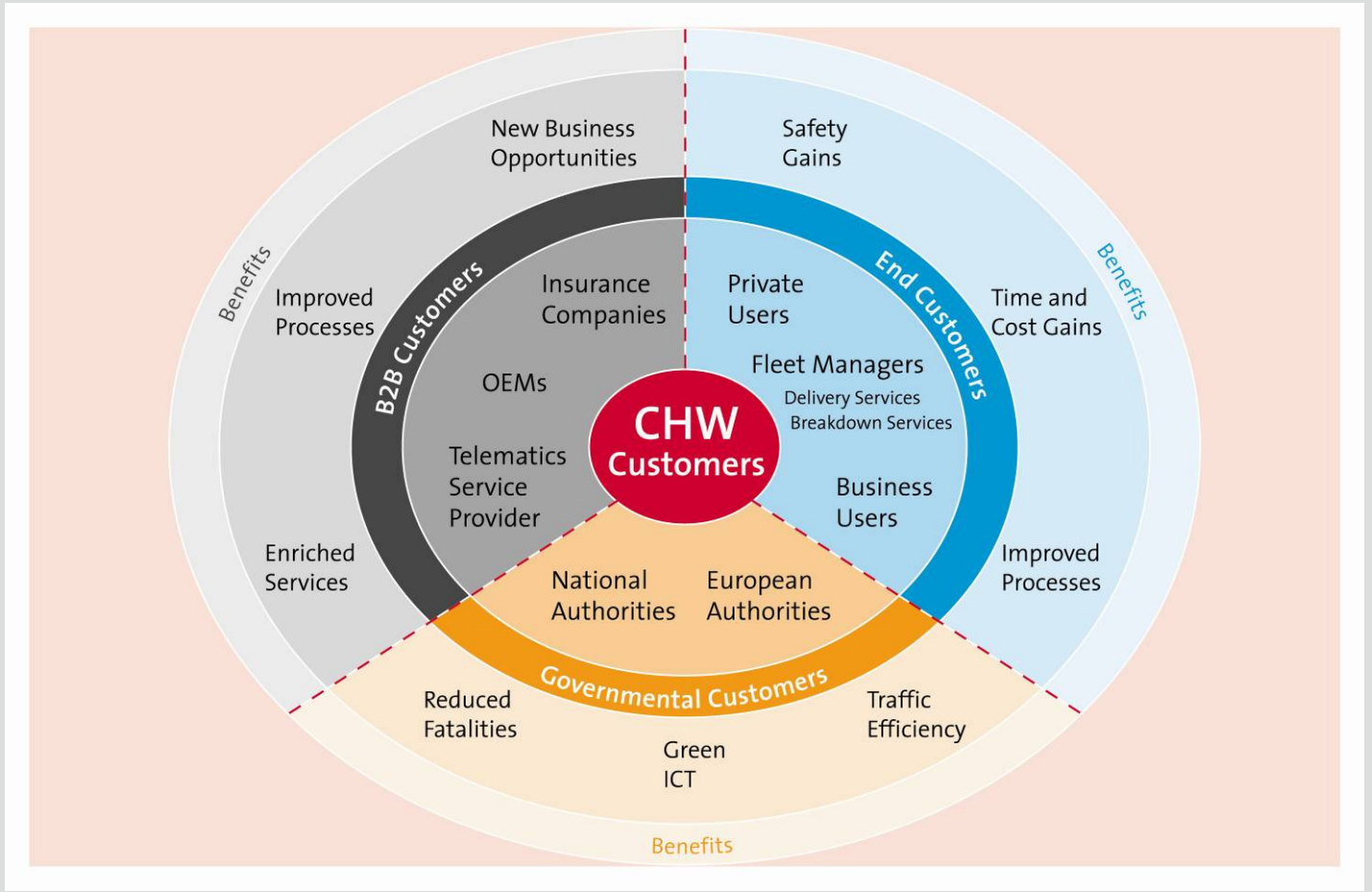
Christian Birle
Vodafone GROUP R&D

Commercial Feasibility

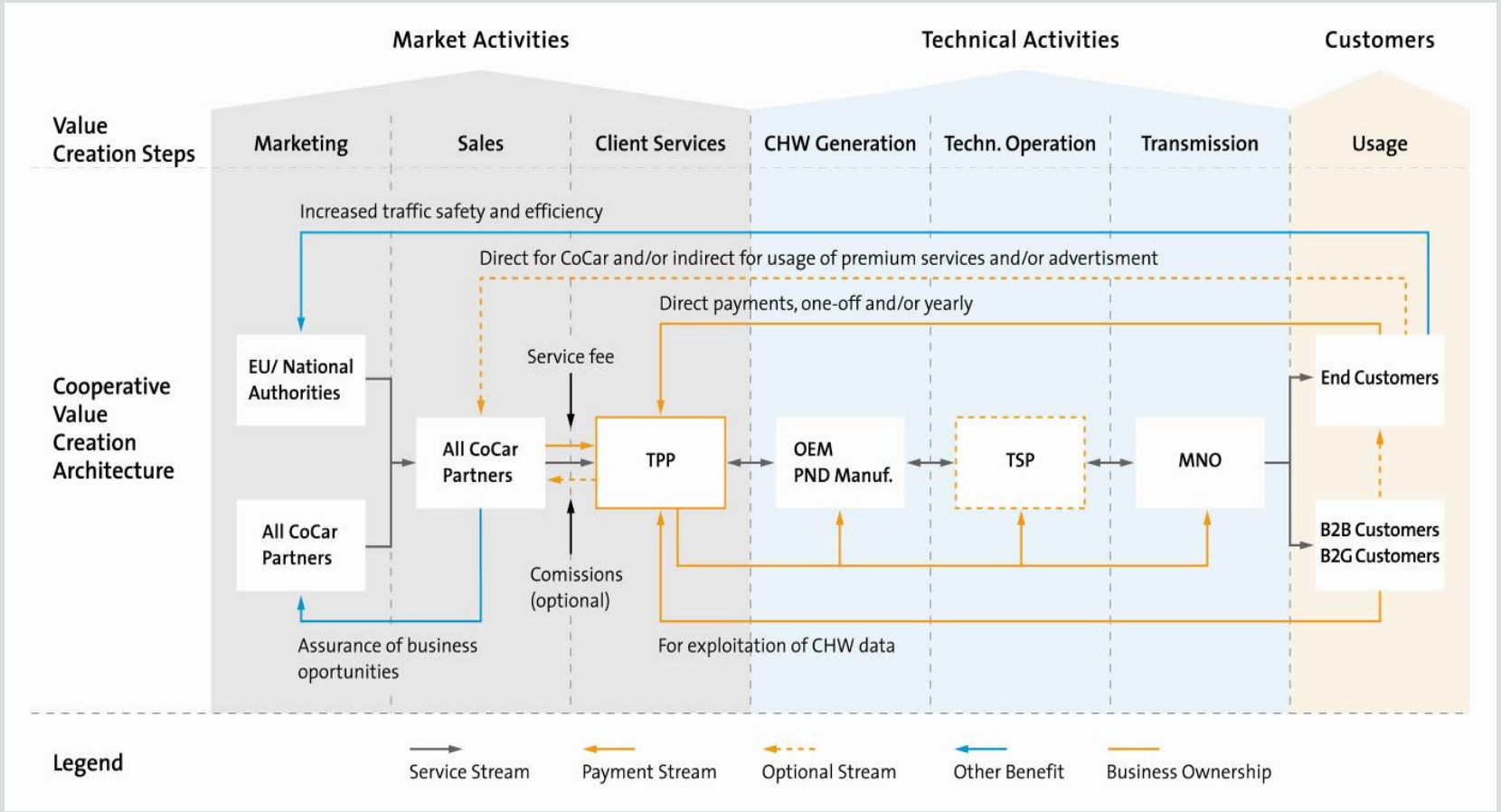
Research Questions

- Technology is mature
- **Commercial feasibility** questions to be answered
  - Which socio-economic and individual benefits are provided by CoCar service?
  - How should the service value be created in the future?
  - How to launch the service successfully?
  - Will the business case pay off?
- Cellular Hazard Warnings (CHW) most demanding application, also from a commercial perspective

End Customers, B2B and Governmental Customers Strongly Profit from CoCar CHW



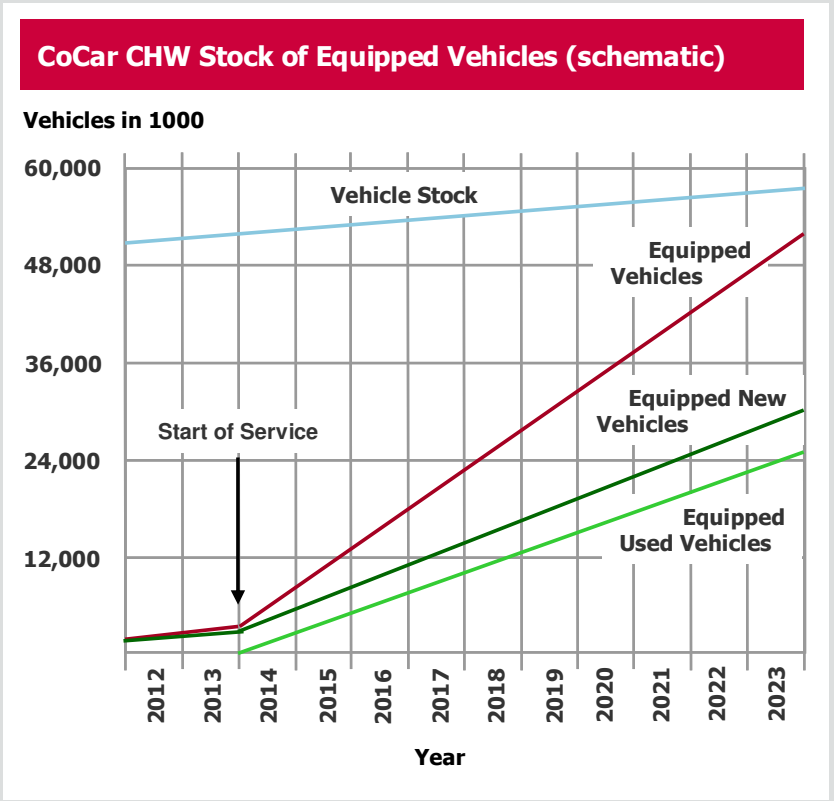
CoCar CHW Value Creation Chain and Architecture



CoCar CHWs Will Be Available in Almost Any Car in 2023, the 10th Year of Operations

Main assumptions:

- Voluntary system
- Rollout combined with standalone safety application (e.g. eCall)
- Highly cooperative value creation architecture
- Explicit demand and support from EC
- 10% penetration necessary before being effective
- Subsidized line-fitted devices from 2012 on
- Start of service in 2014
- Retrofitting in parallel with start of service



CoCar CHWs Provide High Societal Benefits and an Attractive Business Case

- CoCar CHWs are **feasible** from a technical and a commercial point of view!
  - Cost-benefit ratio
    - Safety impacts vs. total system costs ~ **2**
    - Safety impacts vs. subsidies **> 10**
  - Net present value **> € 4 Billion**
  - Break even in the third year of operation
- The main challenge is **coopetition**
  - System has to be set up and run in cooperation
  - Differentiation in sales and services necessary
- Time for cooperative services will be ripe with the comprehensive introduction of standalone safety applications