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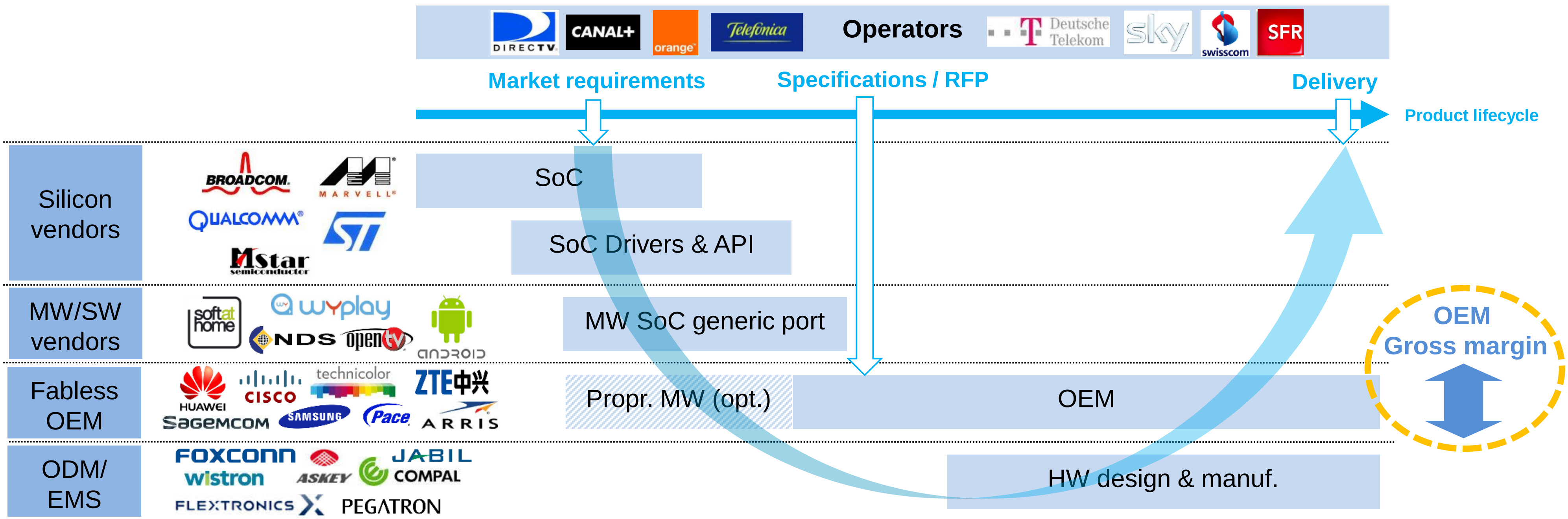
Broadband and Pay-TV market : the CPE eco-system and value chain

October 2015

CPE industry structure and product creation cycle

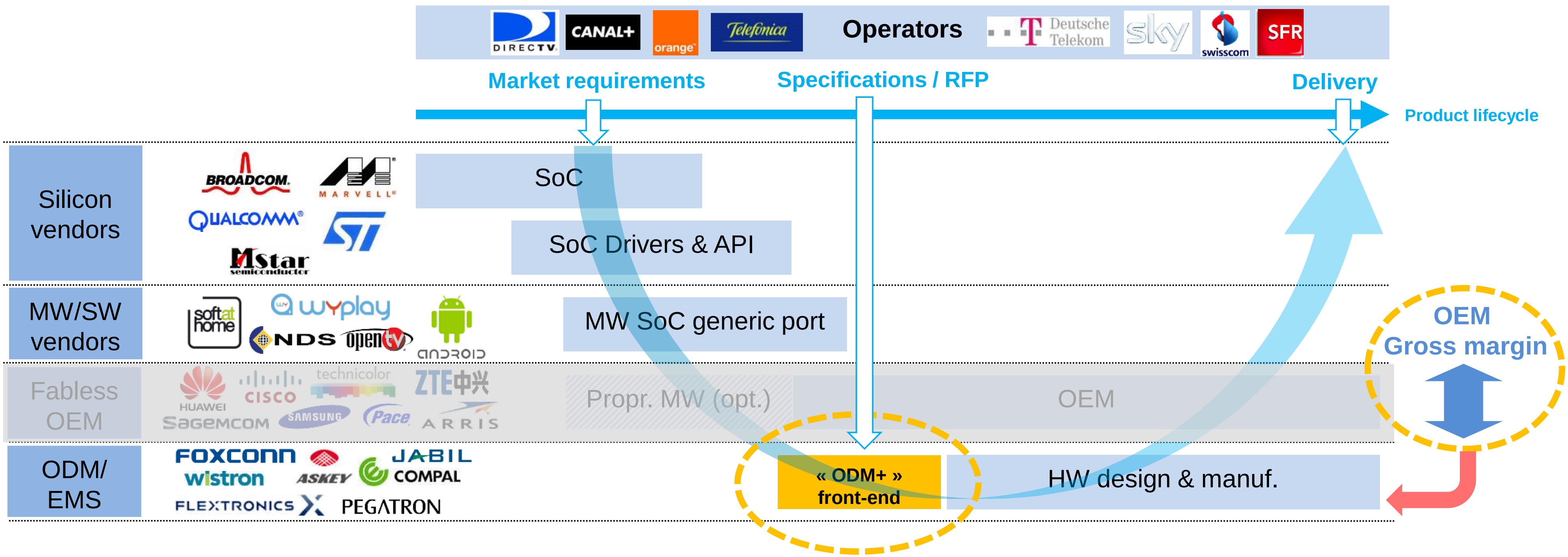


- Silicon vendors start new SoC design based on market requirements, and lobby with operators to have them selecting their chipsets
- Generic platforms are made available by Silicon vendors and MW vendors (for instance, SoftatHome SOP running on BCM7252 reference boards)
- Operators issue RFP's, sometimes imposing the SoC and MW to be used (at least for largest operators). Optionally, OEMs can use their own if they have.
- OEMs compete to win RFPs, relying on EMS for manufacturing or ODMs for HW design and manufacturing

Impact on industry actors : OEMs and ODMs

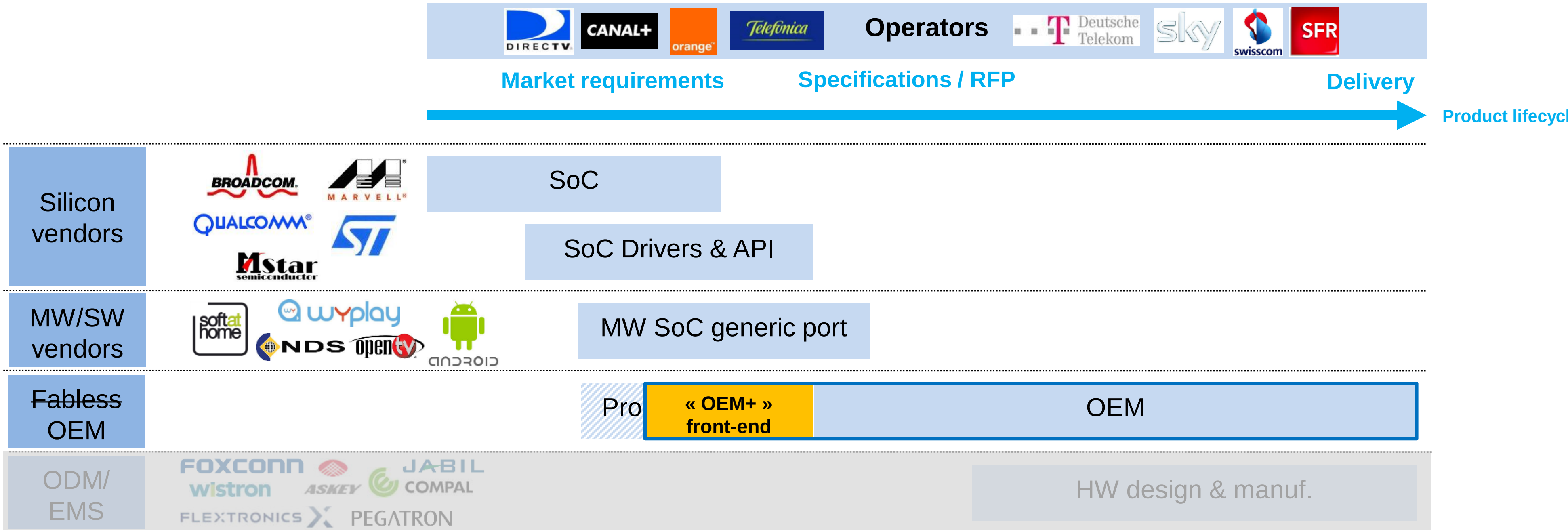
- The product creation cycle described in the previous slide shows **the increasing importance of Silicon vendors and MW/SW vendors** in the realization of CPEs
  - More and more SW is provided by these vendors, **reducing the added value of the OEMs**
- **The OEM added value is further reduced due to new SW trends:**
  - The increasing importance of **UI and Applications** from third parties
  - The choice from some operators to go for **Android**
- **Traditional OEMs** can react in 2 ways
  - **To try to push for their own MW and SW solutions** (cf. Technicolor, Sagem…), which is not always possible (cf. Orange/SoftatHome or Canal+/Wyplay)
  - **To consolidate in order to increase purchasing power** (cf. Technicolor/Cisco, Arris/Pace), which has the drawback to reduce CPE supplier base for operators
- **This implies more pressure on ODMs margin**. A way out for them is **to do direct business with operators**. But this requires **additional skills** they usually have not.
  - In parallel, operators are also considering going direct to ODMs for their CPE HW in order to reduce CAPEX (« no middle-man » approach)

CPE creation cycle : ODM direct to operators



- "ODM+" concept : add a **local, lean and agile team of experts** in order to go direct to operators, allowing them to perform
  - **Business development** : having early discussion with operators to be in the RFP rounds
  - **Technology development** : installing partnership/initiating advanced dev with Si. and MW/SW vendors
  - **Full product integration** with MW/SW and **network integration/validation** with operator experts
  - **Full customer project management** including contract, logistics and aftersales
- **This has been done with Askey+Siligence, and as well with Arcadyan (Compal subsidiary)**

OEM with Fabs are in a good position



- **OEM with fabs**, having thier own manufacturing infrastructure are ideally placed in order to take market share to the big "Fabless OEM"
- As for the ODM+ model, this is possible by just adding a small team of experts (similar kind of "front-end" team) that will establish locally the right connections with operators and technology vendors
- This will be extremely well perceived by key operators as most of them are looking at dealing directly with leading suppliers **("no middle-man strategy")** and **for local R&D support**

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Thank you

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