VITA 57 : A dual use technology by excellence

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Objectives

FMC can be more than a flexible I/O standard for FPGA processor.

The Vita 57 technology enables new business by its capacity to reduce the cost of the design.

Low volume and/or industrial price sensitive market can start "think" FPGA

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What we do

PCIe FPGA Platform

- ❑ **FMC (VITA 57) interface**
- ❑ **Software Kit under Linux & Windows**
- ❑ **Stand Alone**
- ❑ **XilinX Kintex 7 Technology**

High Speed Comm FMCs

Smart Racks

- ❑ **Analog Data Acq & Proc.**
- ❑ **Digital Data Acq. & Proc.**
- ❑ **Web & SNMP Command/CRTL**

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FMC, 2 years ago…

❑ **The promises**

- o **Forecasting FMC adoption and promising market**
- o **Growing ecosystems of both FMC and Carrier manufacturers**

❑ **The drivers**

- o **FMC are easy to design**
- o **FMC offer low latency & high bandwidth**

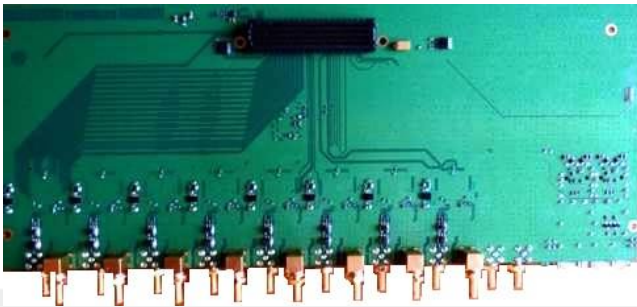TechwaY
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FMC, 2 years ago...

❑ Limits of the concept

- o **Limited real estate**
- o **Limited front panel real estate**
- o **Matching the parallel I/O of the mezzanine with the carrier, in particular with very high speed signals.**

❑ Posting a warning

- o **Integrating a multivendor Carrier + FMC cards would in any case require careful and dedicated FPGA design**

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What happens ?

❑ **Large Industry adoption**

 o **The challenge to integrate a new « FMC « » onto a known carrier is largely balanced by the benefit we can do in reusing all the FPGA Carrier firmware , IP and drivers**

❑ **We have decided to push further these benefits**

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VITA 57 for industrial applications

1. **The cost of firmware is often a stopper to think FPGA in the industry, especialy with in project with small production.**

2. **The FMC offer the possibility to design industrial embedded with reuse of hardware, firmware and software IPs.**

Example : Vita 57 in Smart Rack

- ❑ **19'', 1U**
- ❑ **Multiple ADC**
- ❑ **Multiple SFP**
- ❑ **Trigger signal**
- ❑ **Clock signal**

- ❑ **Kintex 7 FPGA processing**
- ❑ **10 GEth interfaces for Data transmission**
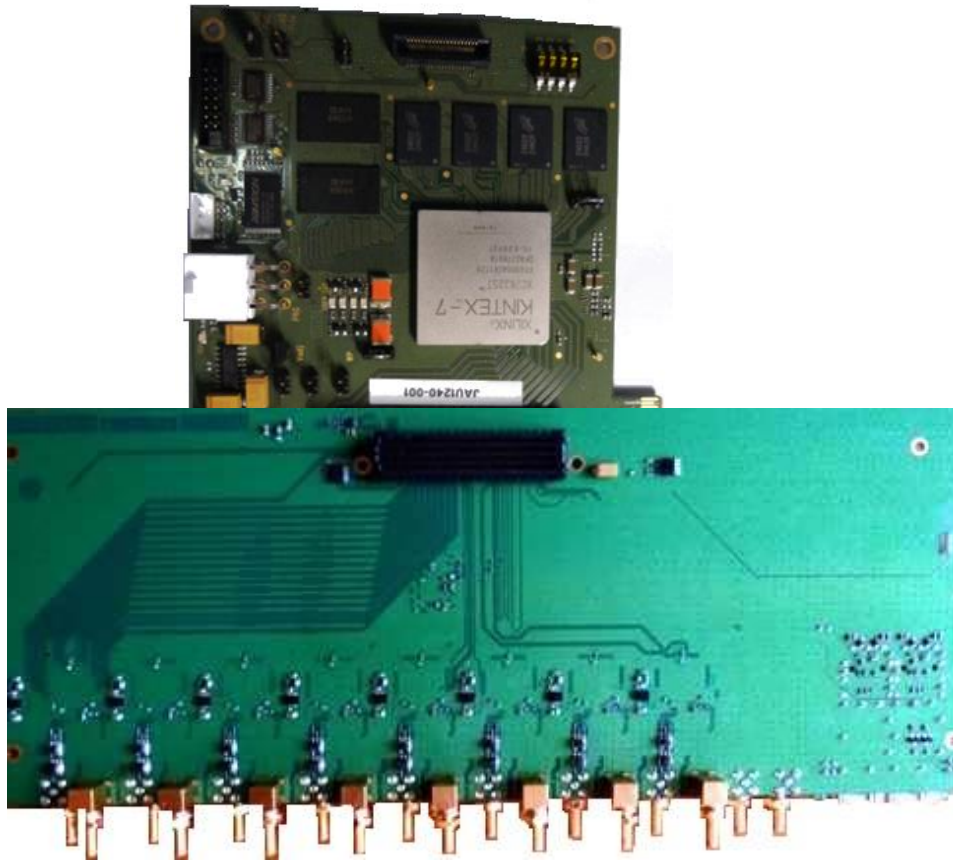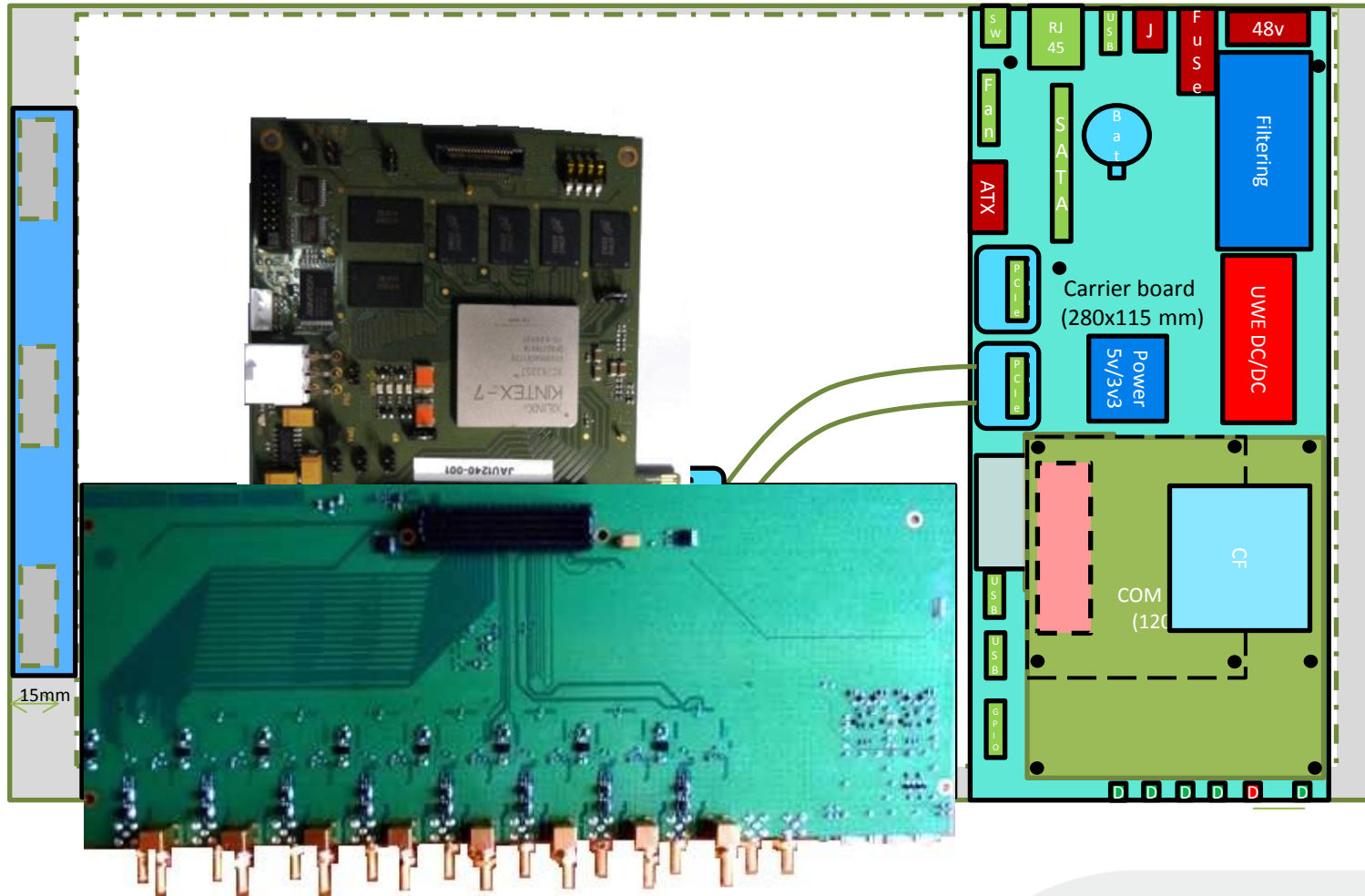- ❑ **SNMP/WEB for CMD/CTRL**
- ❑ **SNMP API**
- ❑ **WEB interface**

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Example : Vita 57 in Smart Rack

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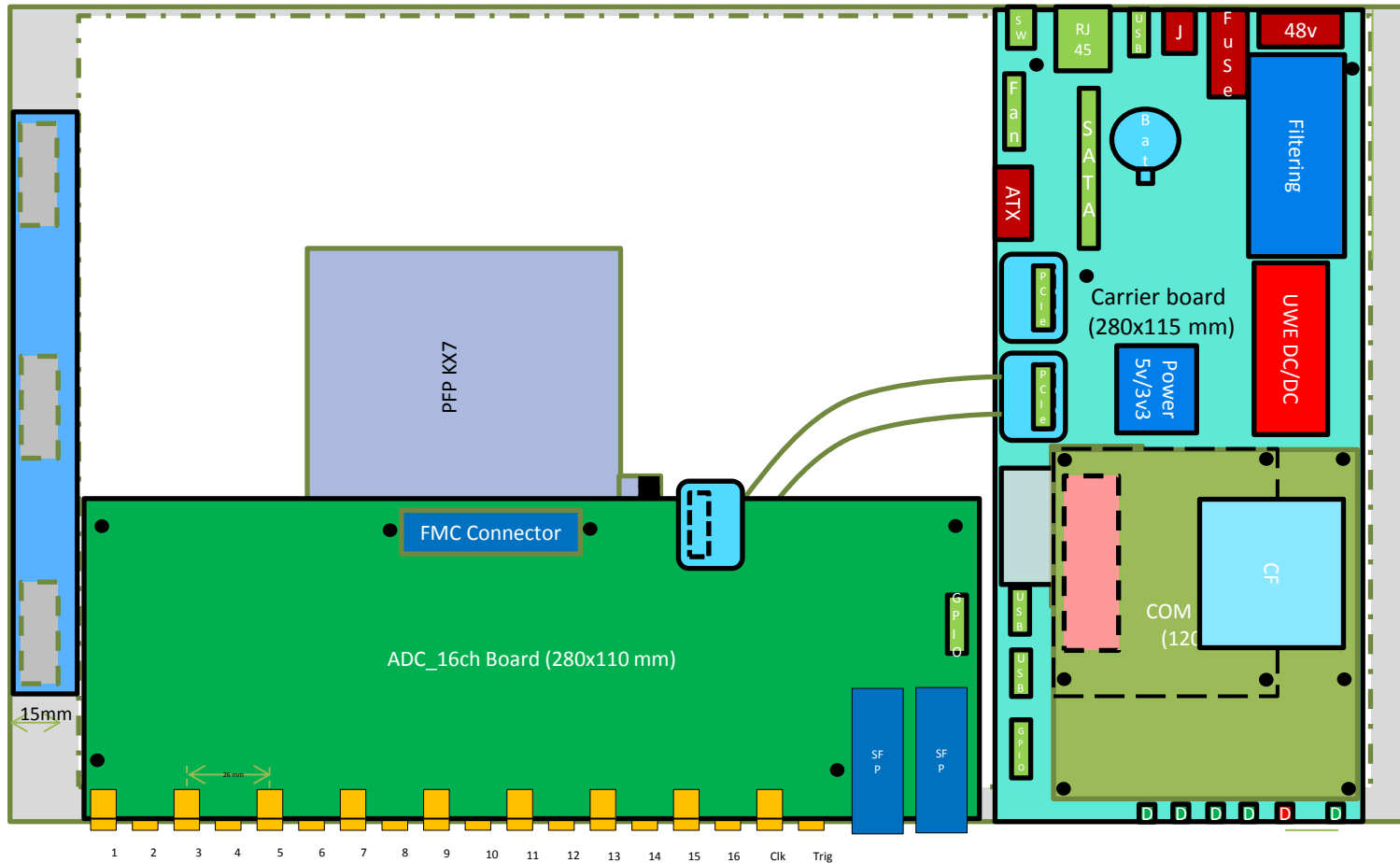La voie de l'innovation

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Example : Vita 57 in Smart Rack

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Conclusion : New opportunities for your IPs

- ❑ **The smart cabinets**
  Civilian radar at European Spatial Agency and Arinc818 switches in Avionic (Airbus, US Army)

- ❑ **The PFP + customer specific FMC**
  Radio/GPS debugging and Telecom equipment (GPON analyzer)

- ❑ **PFP + CoaXpress FMC**
  Advanced Vision applications for high resolution, high speed cameras

- ❑ **In all cases the reuse of Firmware, IPs, drivers, tolls amount to 70% of R&D Effort**
  - – **allowing our customers to focus on their application is a positive trigger to the project startup.**

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