CXL® for Automotive

Applications

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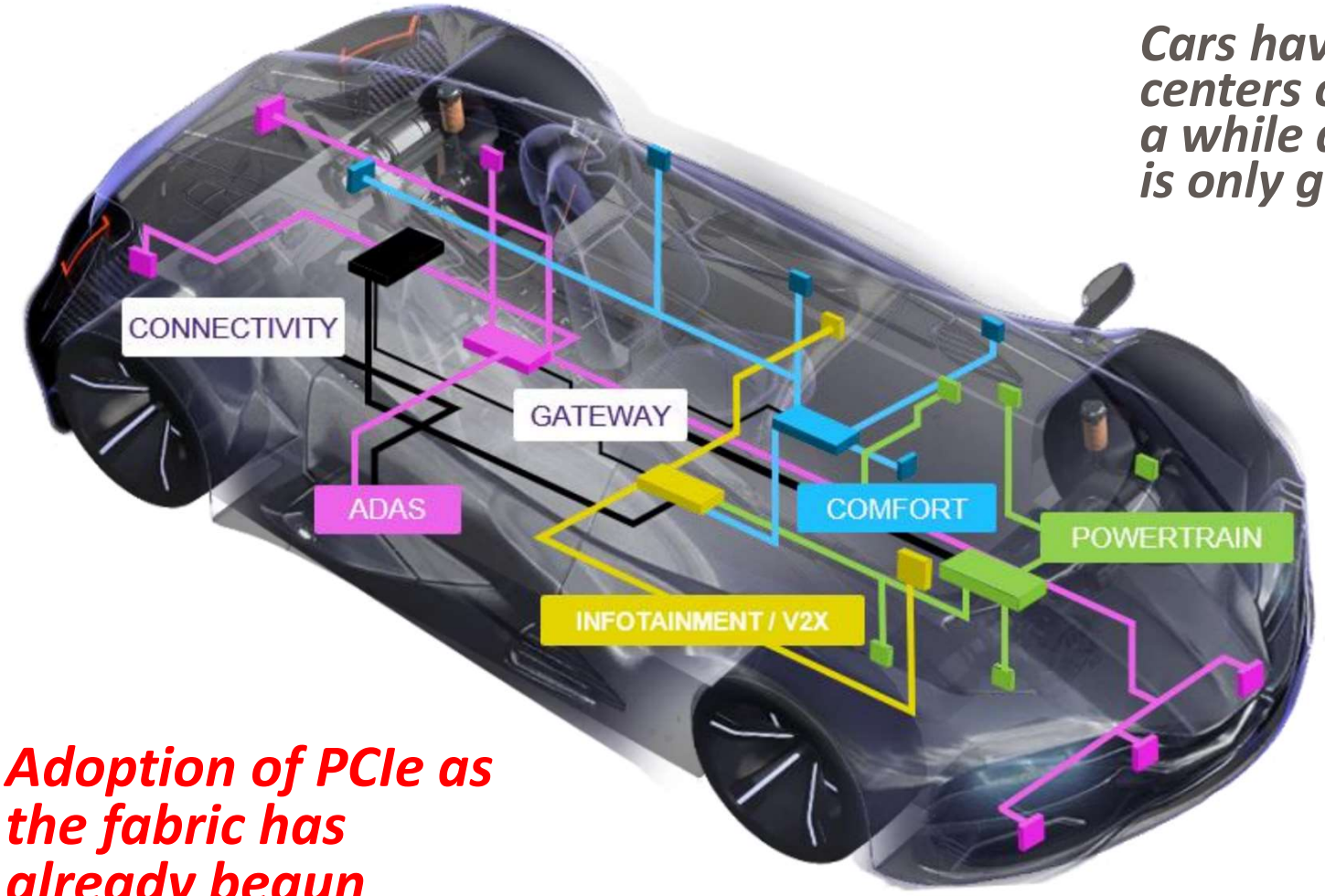
Automotive electronics used to be a second consideration…

Market	2019 market size ($bn)	2024 market opportunity ($bn)	CAGR (%)
Smartphone	106	155	7.9%
Personal computing	86	99	2.8%
Consumer electronics	42	61	7.7%
Automotive $41B → $65B +9.5%			
Industrial electronics	49	71	7.8%
Wired and wireless infrastructure	34	45	5.5%
Servers, datacenters and storage	61	102	10.6%
	419	**598**	**7.3%**

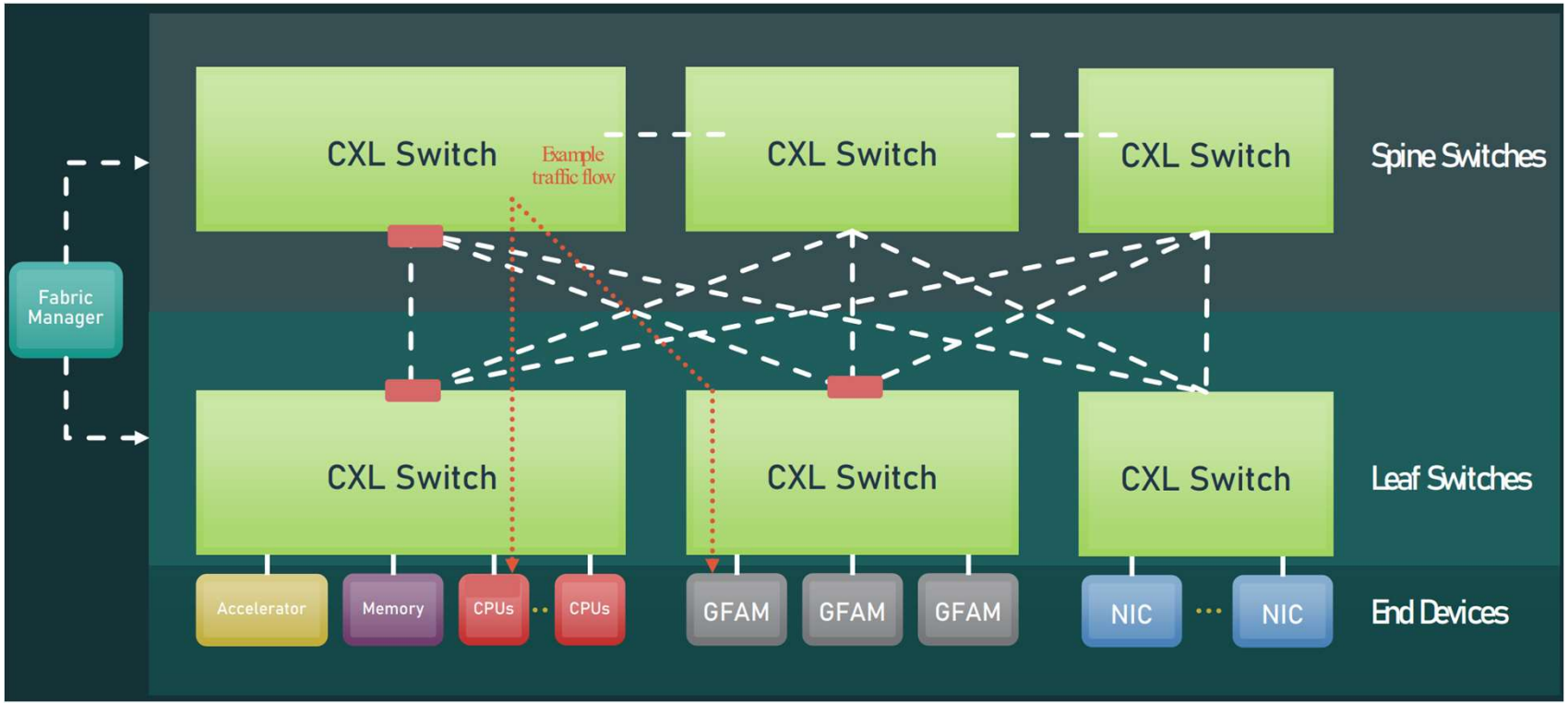
ASML Annual Report, Feb 2021

…but emerged as a crucial and growing market



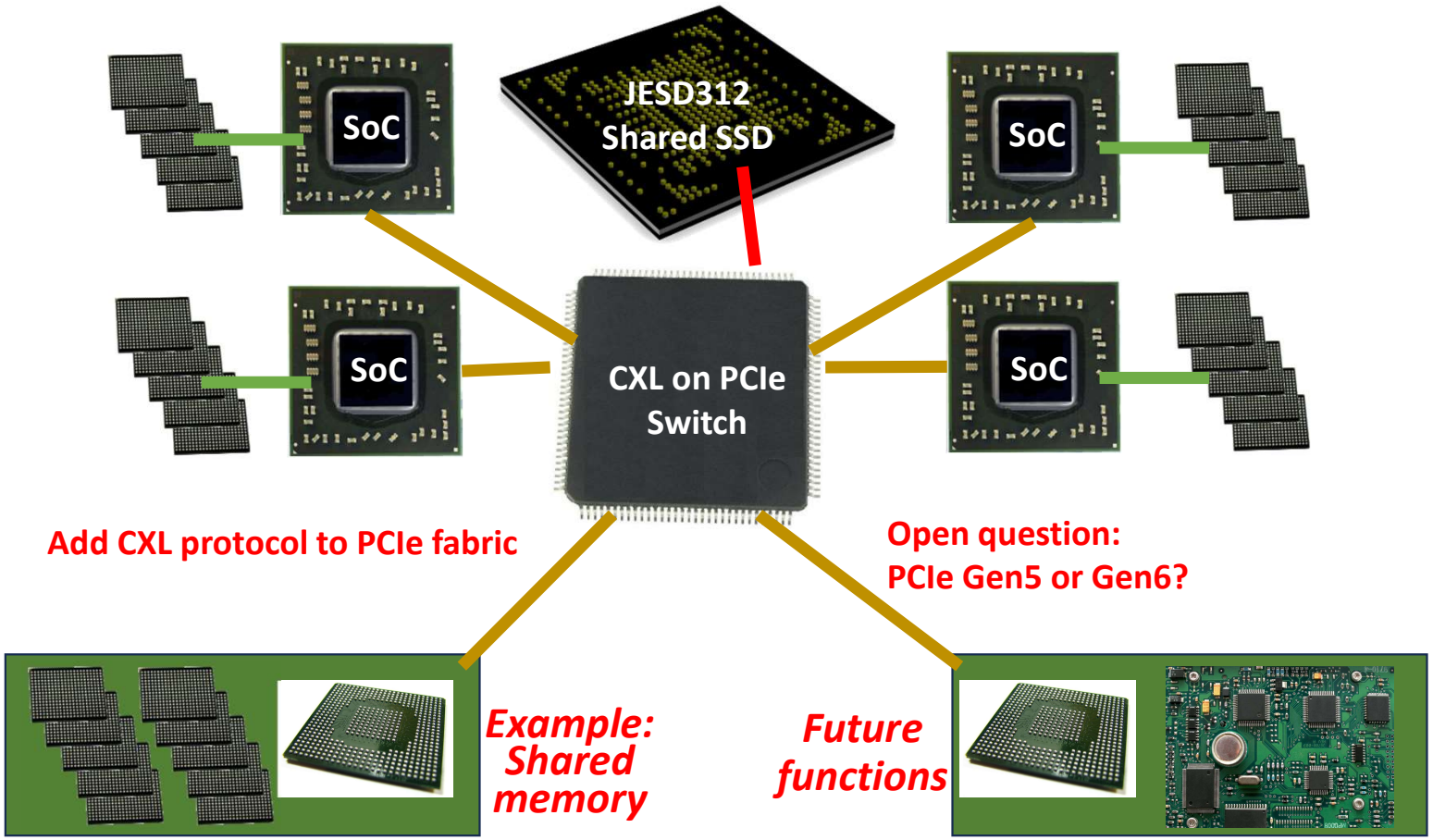
Cars have been data centers on wheels for a while and this trend is only growing

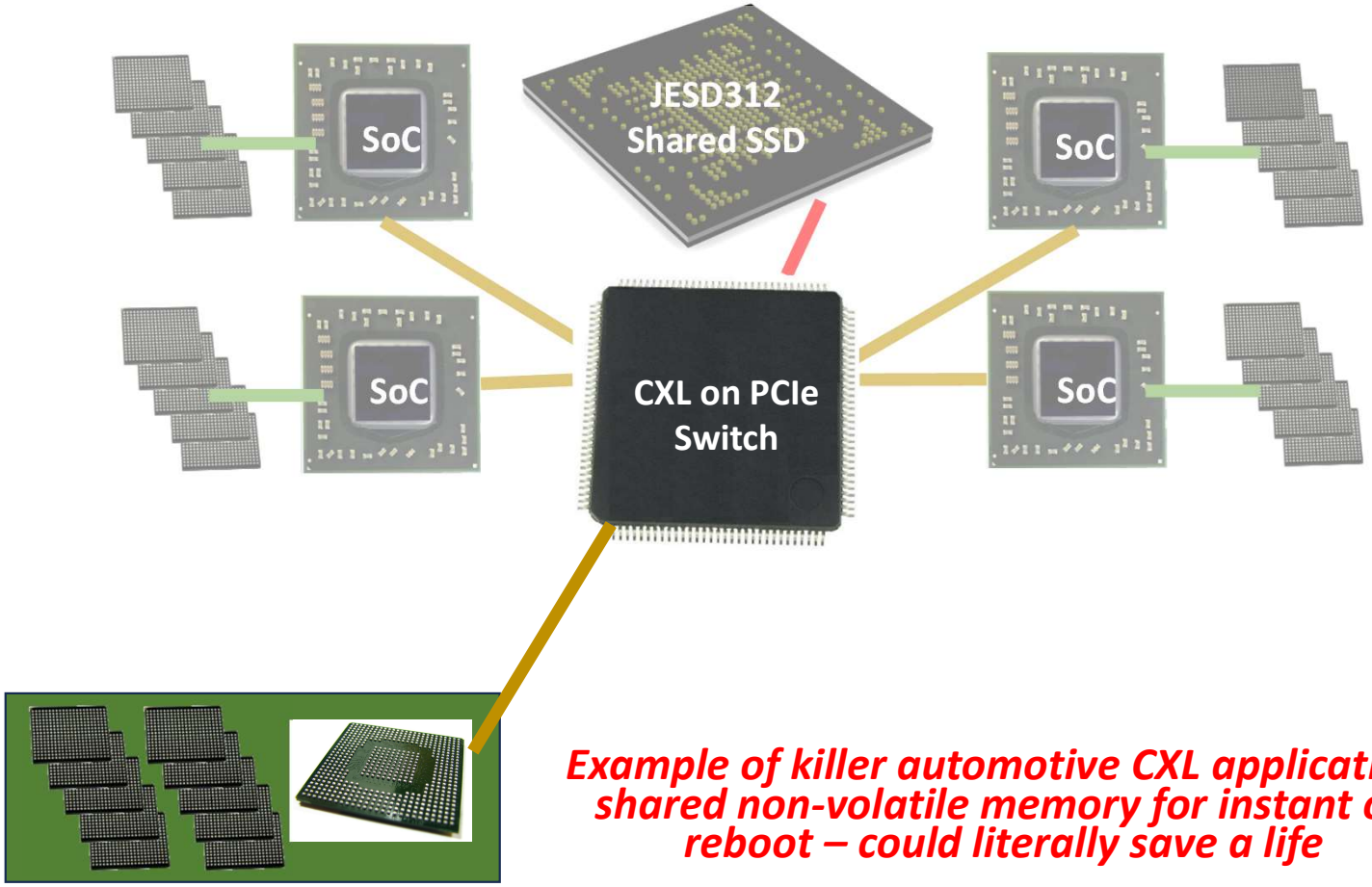
Adoption of PCIe as the fabric has already begun



CXL for data centers addresses the same system needs that a car has:

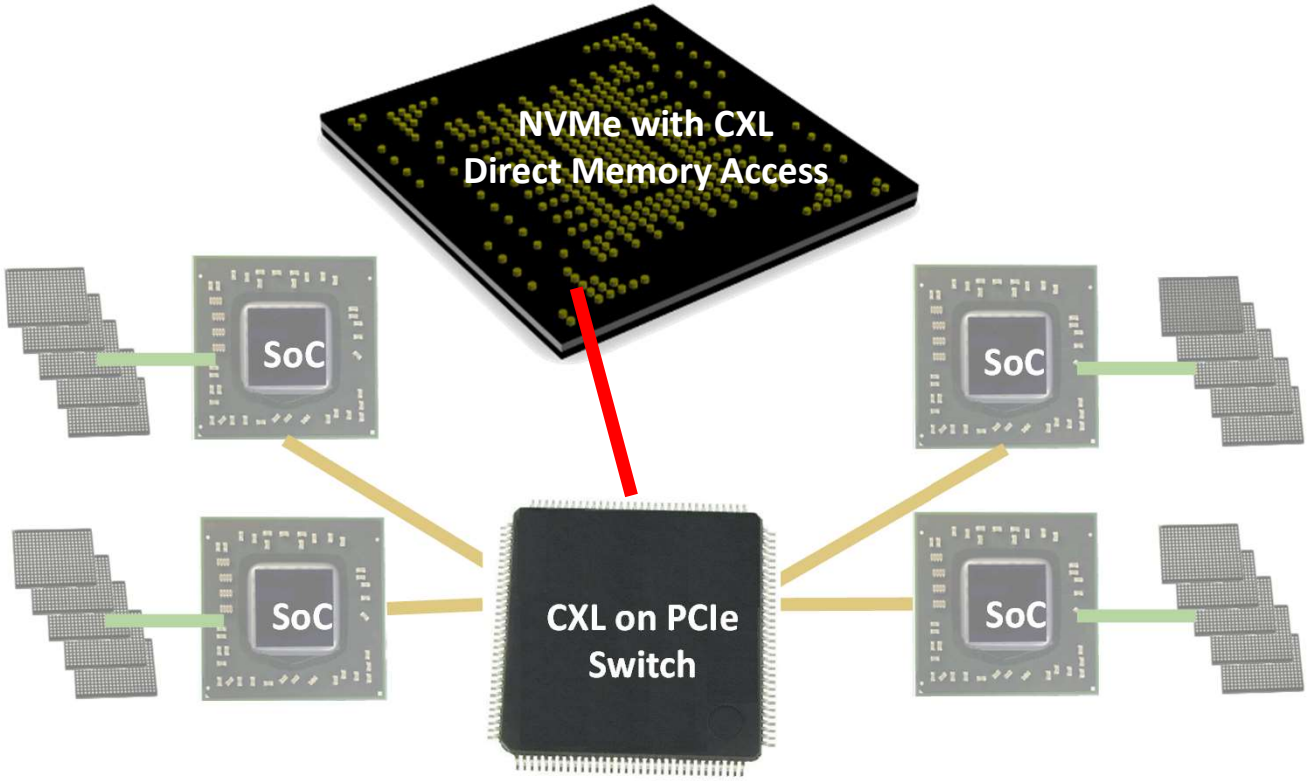
Multi-processing + Memory + Storage + Communications


SoC
JESD312
Shared SSD
SoC
SoC
CXL on PCIe
Switch
SoC
Add CXL protocol to PCIe fabric
Open question:
PCIe Gen5 or Gen6?
Example:
Shared
memory
Future
functions



Example of killer automotive CXL application: shared non-volatile memory for instant on reboot – could literally save a life

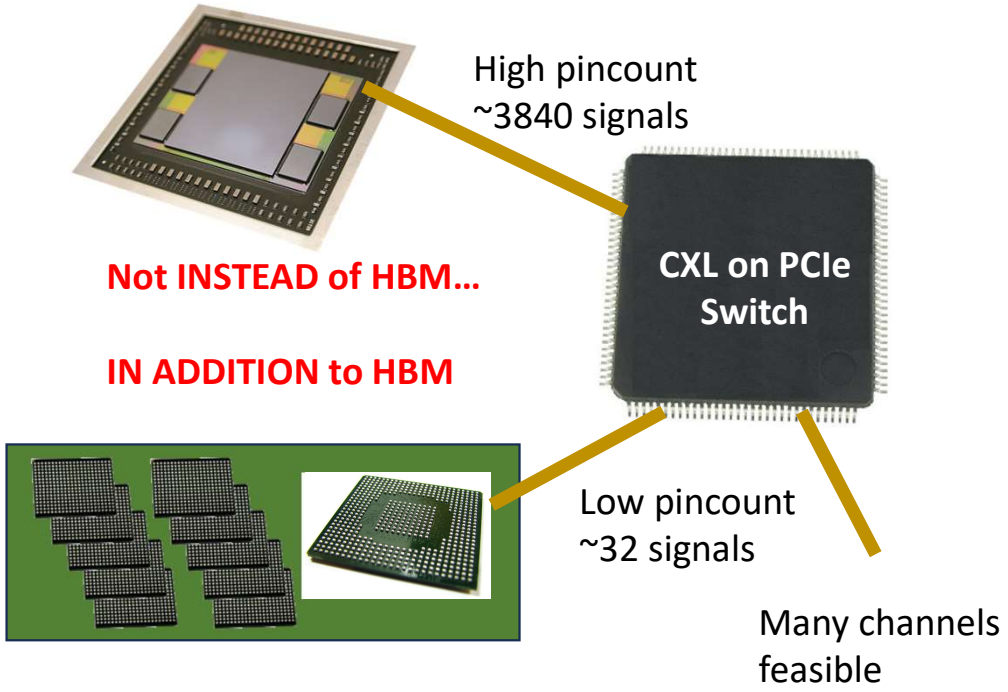
Another CXL based solution:
NAND plus CXL direct memory access
Use as fast NVMe or as memory extension



CXL memory on the fabric allows AI to gracefully adapt as algorithms and data sets grow

Direct connection or through a switch

This argument is common for data centers or automotive



Thank you for your time

Q&A during panel session

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