



HOW WILL YOU SHAPE CRITICAL AND EMBEDDED COMPUTING?

Jerry Gipper, Executive Director, VITA

- Standards Development Organization for Critical and Intelligent Embedded Computing Technology
- ANSI Accredited
- Ecosystem Development and Growth

Learn how to shape the future at
www.vita.com





Mission:

- Promoting the concept of open standards for critical and intelligent embedded computing.

Goal:

- To unite manufacturers and users through the acceptance and implementation of open technology standards.



- Established in 1982 as VMEbus Manufacturers Group, becoming the VMEbus International Trade Association (VITA) in 1984. Shortened to VITA in 2005.
- Very proactive in open architecture standards development.
- ANSI ratification of standards.
- Over 100 published standards.
- Aggressive Intellectual Property (IP) ex-ante policy.
- VITA's activities are international in scope.
- Great mix of suppliers and users as members.
- Approximately 135 members.
- VITA is member of the SOSA™ Consortium.



- All face-to-face meeting were cancelled
- Virtual meetings only
- Most members holding strong
- New Member Introductions
- Online Happy Hours



- **VPX**

- VITA 46.0-2019rev
- VITA 46.11-2015rev
- VITA 46.3x, Higher Data Rate VPX
- AV 48.0,1,2-2010 Rev to Mech REDI Std Base, Air, CC
- 62.0-2016-rev, Modular Power Supply (Rev)
- VITA 62.1, Three-Phase HV PSU front end in 3U
- VITA 62.2, PSU 270v connector class
- AV 65-2019-rev, OpenVPX
- VITA 67.x, Coax interconnect
- VITA 68, VPX Compliance Channel
- AV 78-2015-rev, SpaceVPX
- VITA 87, MT Circular Connectors

- **Mezzanines**

- AV 42.0-2016-rev, XMC
- AV 42.3-2014-rev, XMC PCIe Protocol Layer
- AV VITA 57.x, FMC
- VITA 88, XMC+

- **Reliability**

- VITA 51.4, Reliability Component Derating

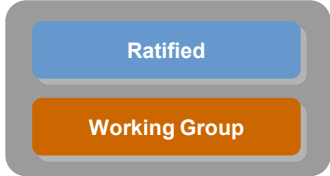
- **VNX**

- VITA 74.4, SpaceVNX

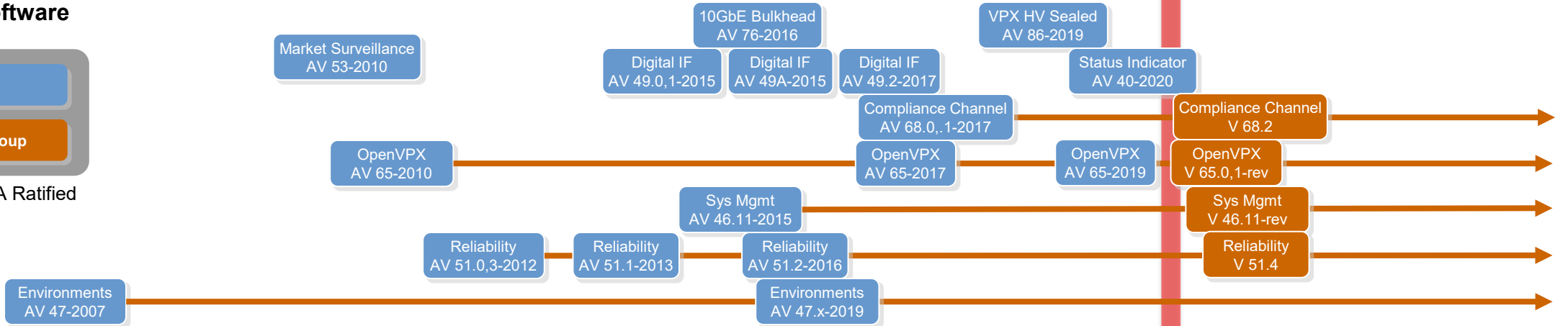
- **AV = ANSI/VITA Ratified**

VITA Technology: Family of Specifications 2000 to Today

Systems & Software



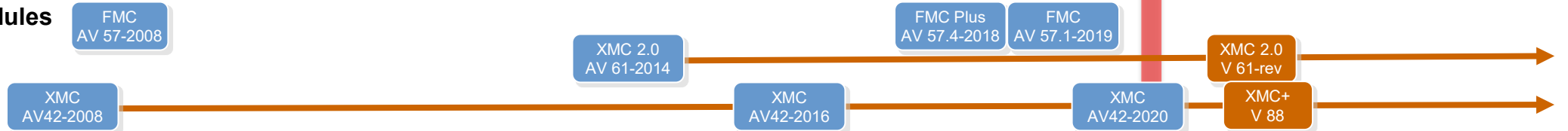
AV = ANSI/VITA Ratified



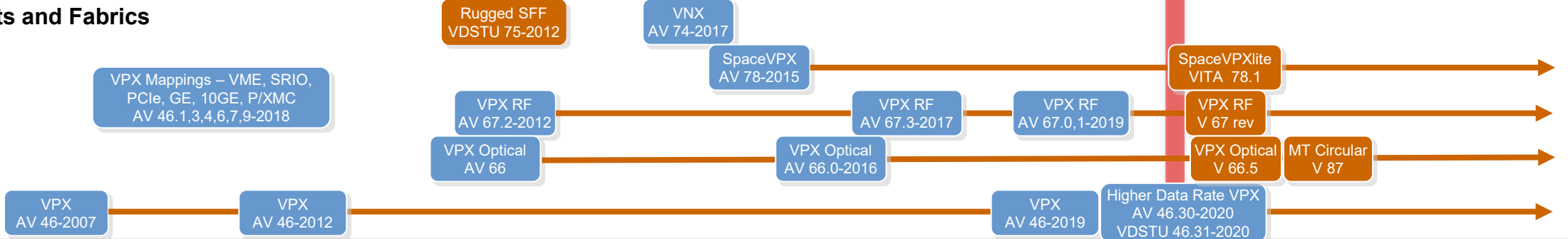
Power, Cooling, Packaging



Mezzanines and Modules



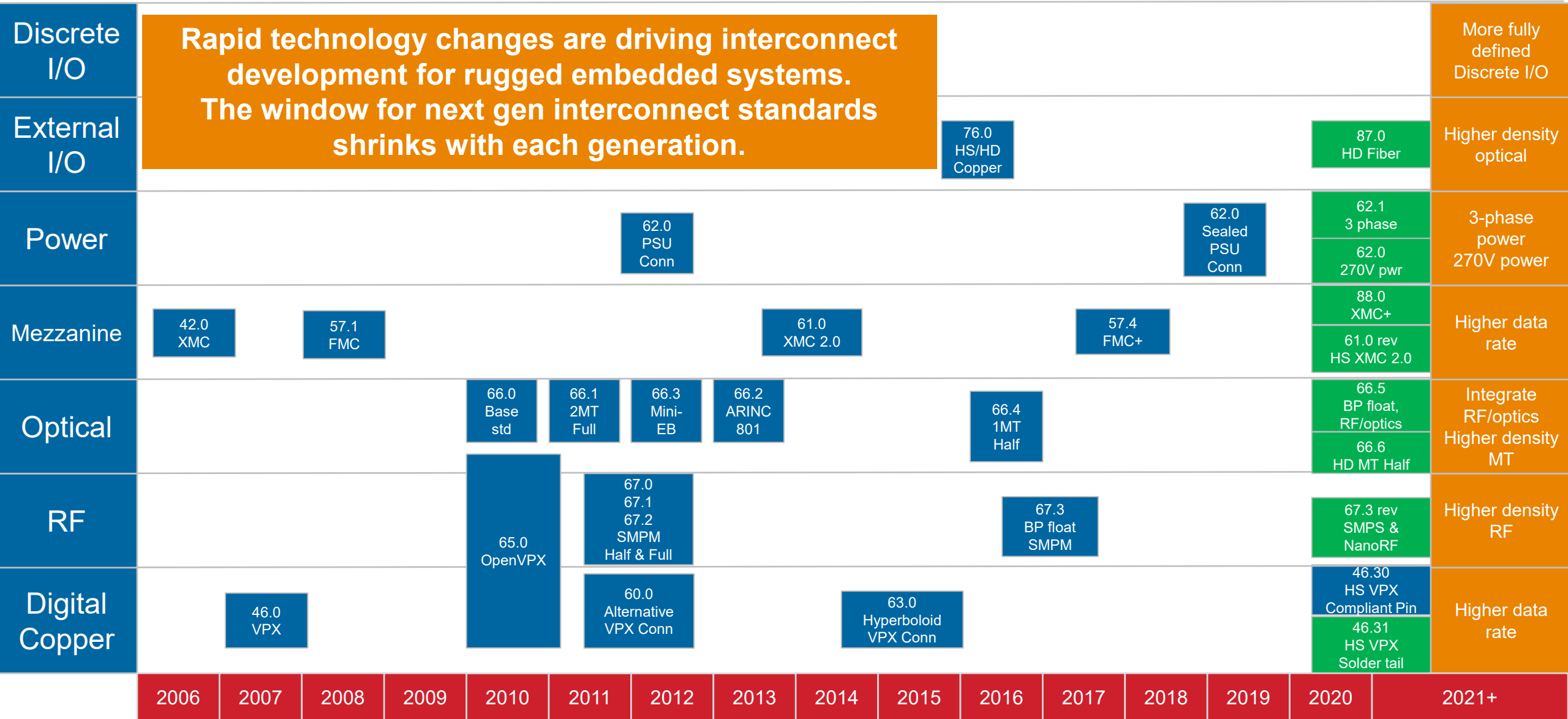
Interconnects and Fabrics



The Evolution of VITA Interconnect Standards

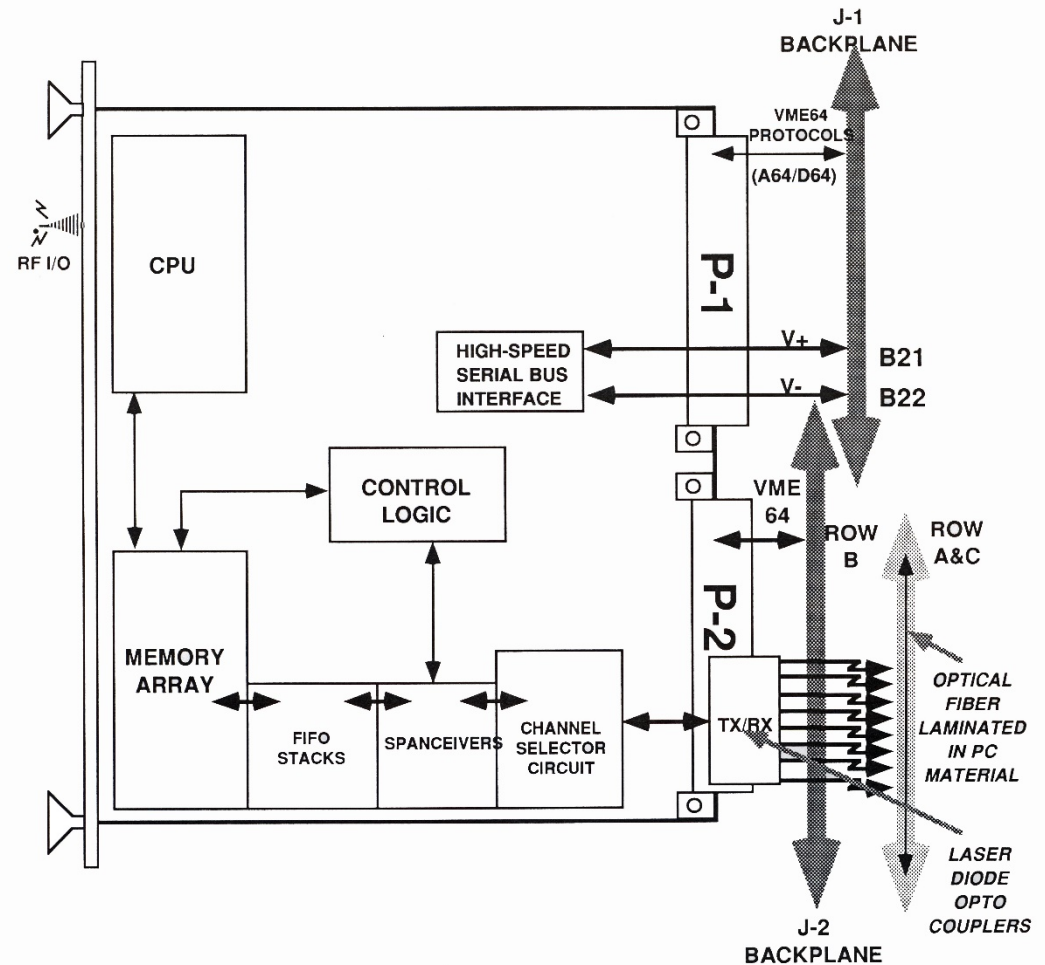


The Evolution of VITA Interconnect Standards



- Maybe it's time to dust off ideas from 1993!
- VITA Architectures for Optical Study Group
– www.vita.com/VAO

'PHOTONIC' Architecture as Conceived by VITA Committee



OpenVPX™ Tutorial and Common Practices

Greg Rocco, MIT Lincoln Laboratory

9 July 2020

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- The Open Group
 - SOSA
 - FACE
- HOST
- CMOSS
- PICMG
 - IPMI
- AXIe Consortium
 - Optical Data Interface (ODI) (VITA 49)
- IEEE
 - Reliability (VITA 51.4)





- Higher Data Rates on VPX
 - ANSI/VITA 46.30-2020
 - VITA 46.31-2020

- Market Research Report
 - VITA Market Developments in 2020



Information for the press

Blocking period until 21 October 1981, 16:30 hours

Mostek, Motorola and Philips/Sigmetics announce a common system bus for 16/32 bit computer systems.

Brussels/Munich/Hamburg, 21 October 1981

This is the first time in the history of microelectronics that three major manufacturers of electronic devices have jointly developed a powerful microcomputer system bus which they hereby announce: the VMEbus.

Mostek, Motorola and Philips/Sigmetics - the latter represented in Germany by Valvo - present as a result of this development the bus specification, which will be used in future microcomputer system cards. The card format as well as the connectors used conform to DIN 41494 and DIN 41612, respectively, commonly known as "Eurocard" and "Eurocard Connector".

All three companies will announce VMEbus compatible products within the next months, while Motorola already presents their first system cards with VMEbus interfaces at SYSTEMS '81.

The basic specification of this bus corresponds to the well-known VERSABUS, which had been introduced 1 1/2 years ago by Motorola for use on the system cards based on the MC 68000. In consideration of the growing demands by future device generations the following performance features were additionally implemented:

- support for multiprocessor systems
- support for microprocessor architectures up to 32 bit word width
- data throughput up to 20 million bytes per second
- completely asynchronous, non-multiplexed bus protocol
- priority-controlled bus assignment
- support for central and distributed interrupt processing on 7 priority levels
- support for data-block transfer
- secure semaphore control with read-modify-write cycles
- additional control lines for bus error, system failure and power fail

The VMEbus, compared with the currently used and known system buses, offers for the first time the possibility to change from CPU-dominant systems to systems with true distributed intelligence and thereby meet additional application requirements.

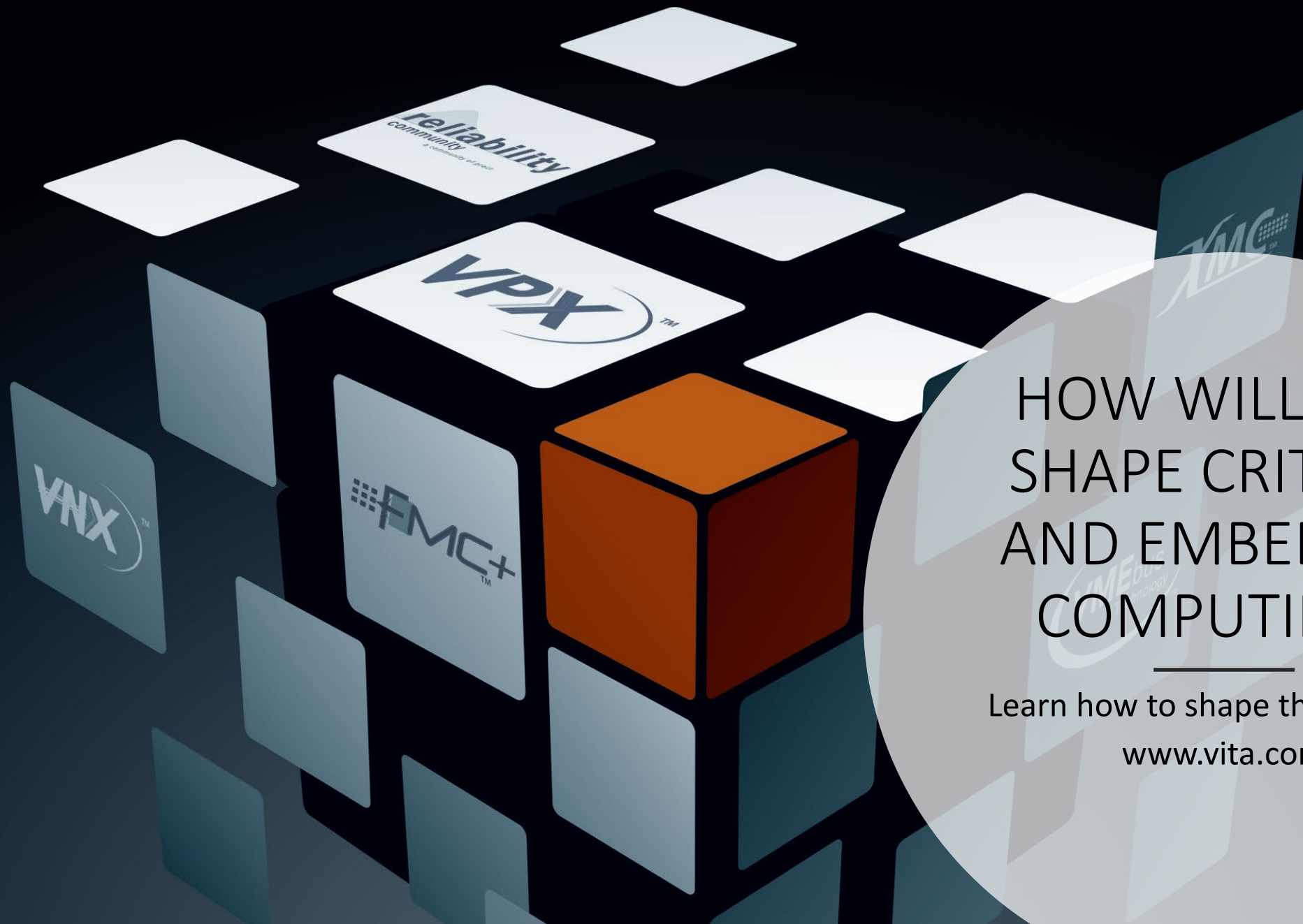
Mostek and Philips/Sigmetics are licensed manufacturers of the Motorola microprocessor based on their agreements with Motorola. The VMEbus matches the technical power of the MC68000, its future enhancements and the performance

40!

VMEbus Technology

TM

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