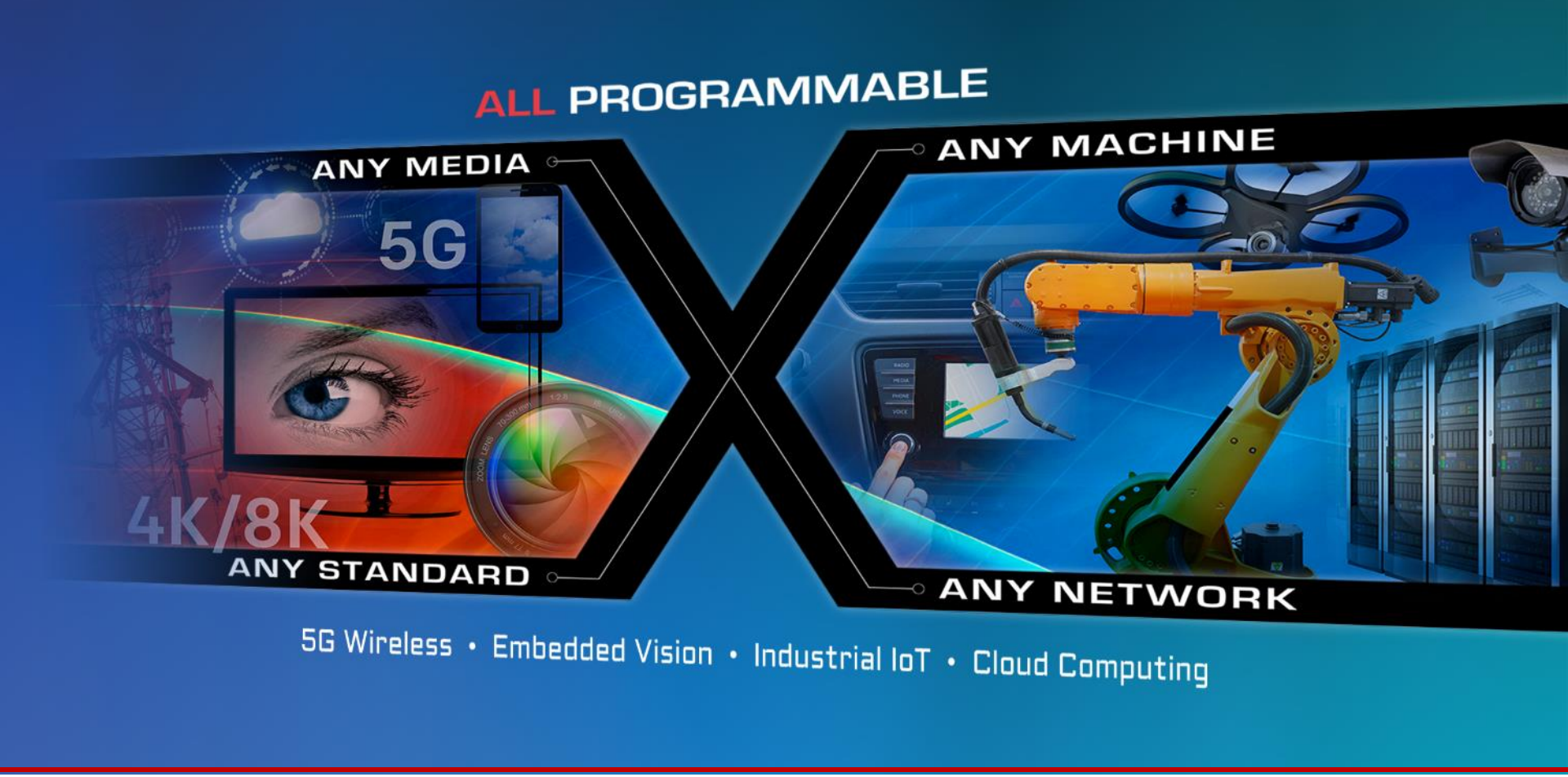

XILINX
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PYNQ™

Python Productivity for Zynq

Goals

- Introduction to the PYNQ project
  - Pynq Image
  - PYNQ-Z1 board
  - Jupyter Notebook Interface
  - Overlays or Hardware Libraries
  - Designing overlays
- Hands-on experience with Jupyter Notebook and the PYNQ-Z1
- Feedback

Agenda

Session 1

Introduction to the PYNQ project
Demonstration
First steps with PYNQ-Z1 (set up board)

Labs: Getting started with Jupyter Notebooks
Getting started with IPython
Exploring PYNQ-Z1
Programming on-board peripherals

Agenda (continued)

Session 2

Introduction to overlays

Labs: Peripherals: Grove Temp sensor
Peripherals: Pmod OLED
Peripherals: Grove LED bar (optional)
Peripherals: Grove ALS sensor (optional)

Agenda (continued)

Session 3

Pynq IOPs

logictools overlay

Labs: Using Wavedrom

Using Boolean generator

Using Pattern generator

Using FSM generator (optional)

Agenda (continued)

Session 4

Overlay design methodology

Labs: Using GPIO/MMIO with PL slaves

Memory allocation with Xlnk

Accessing DRAM from PL masters

Using DMA with AXI streams

Closing remarks and feedback