The EMVA:
Gateway to Vision Tech

VISION VENTURES

EPIC Online Technology Meeting,
September 14. 2020

Dr Chris Yates,

President & Board Member, EMVA

Director, Vision Ventures M&A Advisory

emva
european machine vision association

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Europe, North America and Asia represented

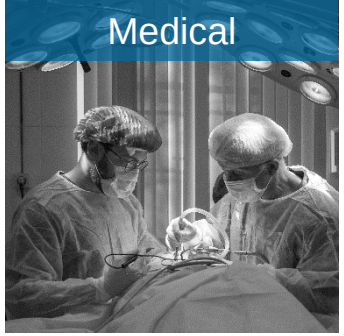
More than 125 active members from 25 countries

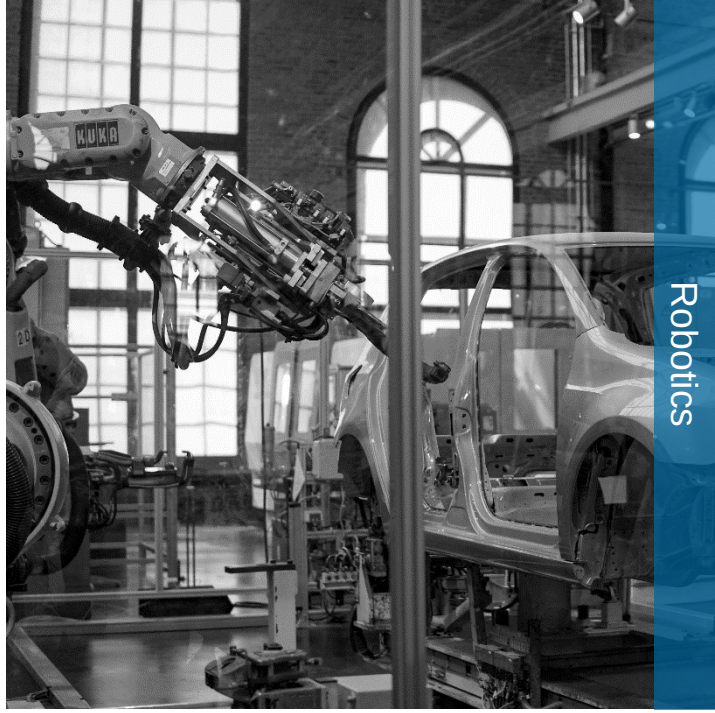
Host of four international vision standards

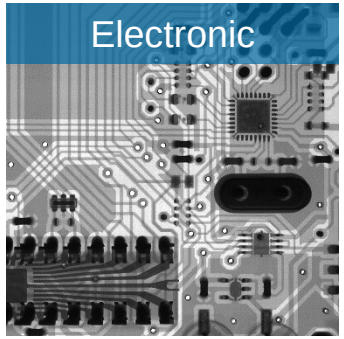
Not-for-profit, non-commercial organisation coordinated by elected Board of Directors and General Manager

Dedicated to the promotion of Vision Tech and strengthening global competitiveness of members

Schneider Kreuznach
AEG
iDS
xvision More than Vision
ON Semiconductor
Edmund optics worldwide
tiama On-line Process & Quality Controls
ifm
Allied Vision
Adimec Excellence in Imaging
FLIR
Opto
FRAMOS
CCS Advancing Society with the Science of Light CCS Inc.
IK4 IDEKO Research Alliance
vicomtech visual interaction & communication technologies
VDMA Machine Vision
ximea
STEMMER IMAGING
ZEISS
INOS A Member of GRENZEBACH
OptoMotive
SVS-VISTEK
VISION VENTURES
VOYAGE 81
GARDASOFT Industrial LED technology
tecnalia Inspiring Business
Active Silicon COMPUTER IMAGING PRODUCTS
HUARAY
teli
TELEDYNE ANAFOCUS Everywhereyoulook
TELEDYNE DALSA A Teledyne Technologies Company
RAUSCHER BILDVERARBEITUNG
TST ENGINEERING & VISION
SiliconSoftware
kappa
Newtech
SICK Sensor Intelligence.
net NEW ELECTRONIC TECHNOLOGY
Optronis Make time visible
ADVANCED TECHNOLOGIES
Xenics Infrared Solutions
PRO PHOTONIX
VISION MARKETS
ADLINK TECHNOLOGY INC.
Baumer Passion for Sensors
cei
euresys Empowering Computer Vision
pco.
PHASEONE INDUSTRIAL
sensor to image a Euresys Company
MIKROTRON High-Speed Vision Solutions
BitFlow
cogniac
HIKVISION
MIDOPT MIDWEST OPTICAL SYSTEMS, INC.
odos imaging A Rockwell Automation Company
vieworks
smart vision lights Where Innovation and Lighting Begin
Tattile Custom Vision Solutions
PHAER COMPUTER VISION EXPERTS
VS TECHNOLOGY MACHINE VISION OPTICS
ViTec
effiLux Efficient Led Lighting
MATROX IMAGING
CRETEC GMBH CREATING TECHNOLOGIES
AEON
Optics
OPT Machine Vision
ATD ELECTRONIQUE
DATALOGIC
DATAPIXEL SL http://www.datapixel.com
Gpixel
NOTAVIS vision for OEM
Lumenera corporation
IMAGES www.imagesarl.com
ISRA VISION
Pleora Technologies
Università degli Studi di Brescia
盛相科技 MEGA PHASE
PRECITEC
IIM MEASUREMENT ENGINEERING
amun
VISION high dimensional vision systems
chromasens Imaging for Professionals
IMPERX Industrial Cameras & Imaging Systems
DR.-ING. JÄNCHEN · BUSINESS DEVELOPMENT
FUJIFILM Value from Innovation
vision components
KORTIQ
KOLEKTOR
LUCID VISION LABS
QIOPTIQ Photonics for Innovation An Excelitas Technologies Company
Fraunhofer HHI
VIDEOSYSTEMS
Fraunhofer IPA
Fraunhofer IFF
Fraunhofer IAIS
MITSUBISHI ELECTRIC Changes for the Better
FH GR Fachhochschule Graubünden University of Applied Sciences
Z-LASER Intelligent Solutions in Light
ADVANTECH Enabling an Intelligent Planet
Fraunhofer FHR
Fraunhofer IIS
Fraunhofer VISION
MaxxVision
Fraunhofer IOF
LMI TECHNOLOGIES
SONY
iAi See the possibilities
Fraunhofer IOSB
MERZ Jochen Merz Sp. z o.o. sp. k.
perception park
INSPEKTO
VIDI seeing what matters
Fraunhofer EZRT
COGNEX
BIRGER engineering
NACACUE
Fraunhofer ITWM
AIT AUSTRIAN INSTITUTE OF TECHNOLOGY TOMORROW TODAY
PROPHESEE METAVISION FOR MACHINES
Heidelberg Collaboratory HCI for Image Processing
TAMRON







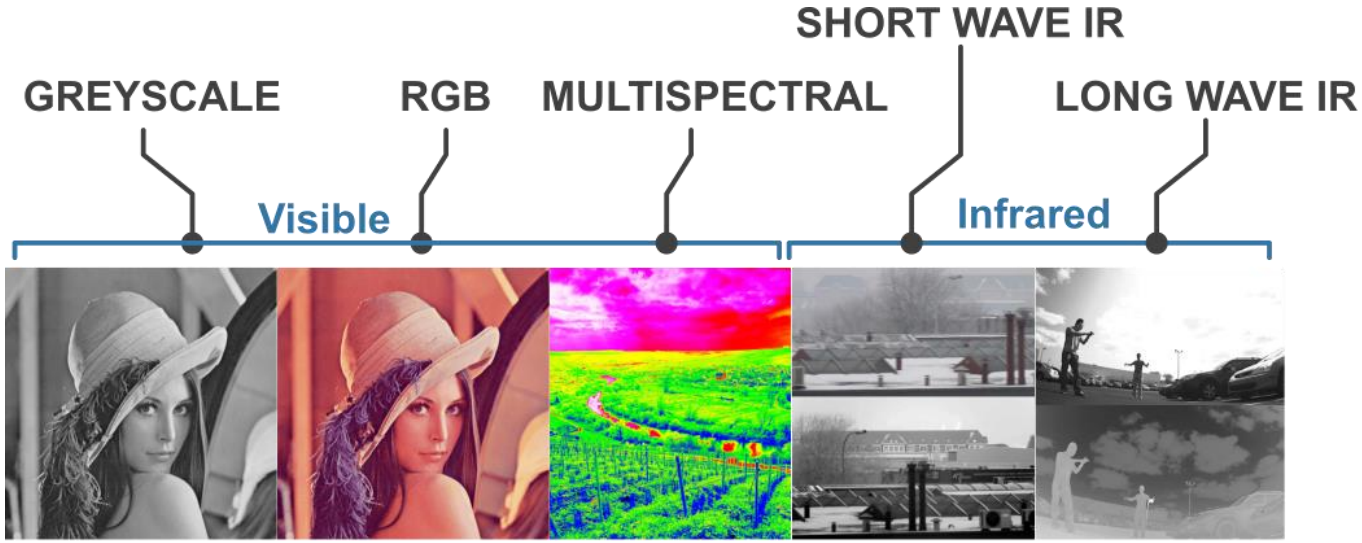
The vision sector is a high-growth, high-tech, and innovative marketplace covering many industry verticals

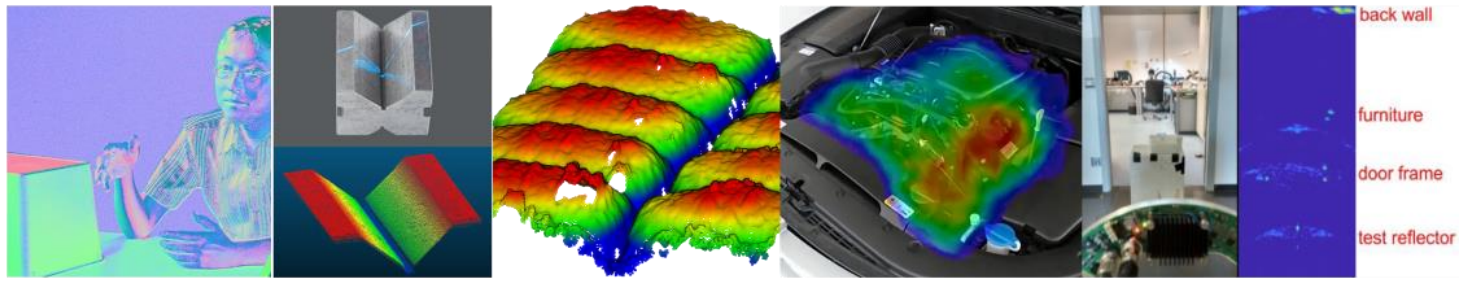
Components of a Vision System

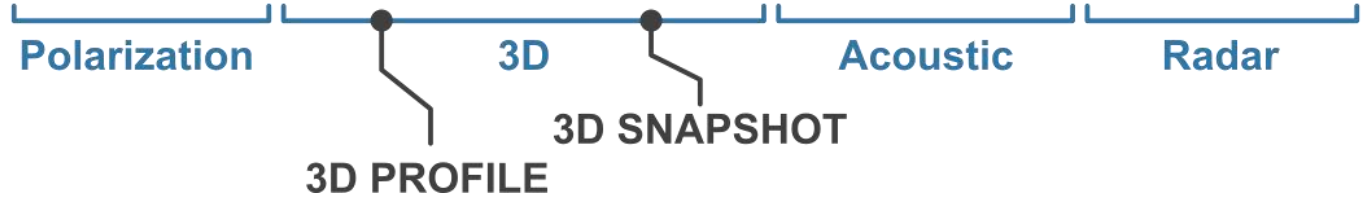
Many different **Vision Tech** products are available to solve applications

Components shown provided by EMVA member companies (except OpenCV)

Illumination	Lenses	Camera	Smart Camera	Frame grabber	Vision Processor
control light	define captured scene	capture image	integrated functions	transfer data	process data



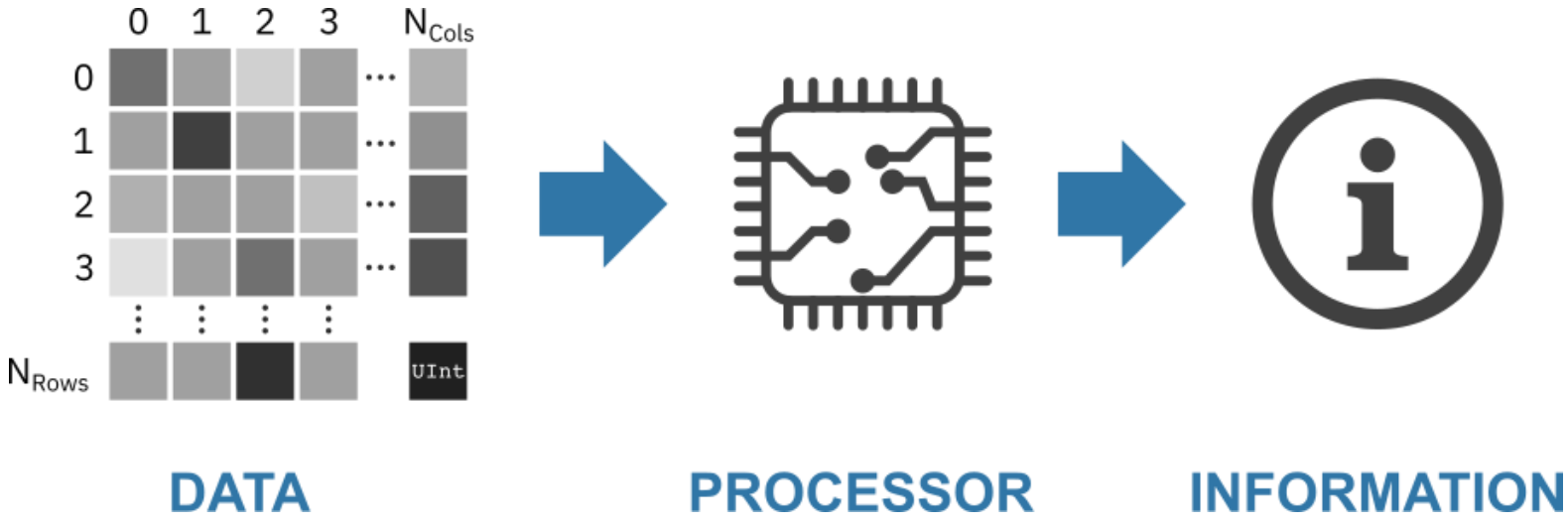




Many Types of Image can be Simply Captured

Many **different types of images** can be captured using dedicated Vision Tech.

Each provides **different information** on the captured scene.



Processing Converts Raw Data to Information

How much data to process? → **bandwidth** limitations

How quickly is information needed? → **latency** constraints

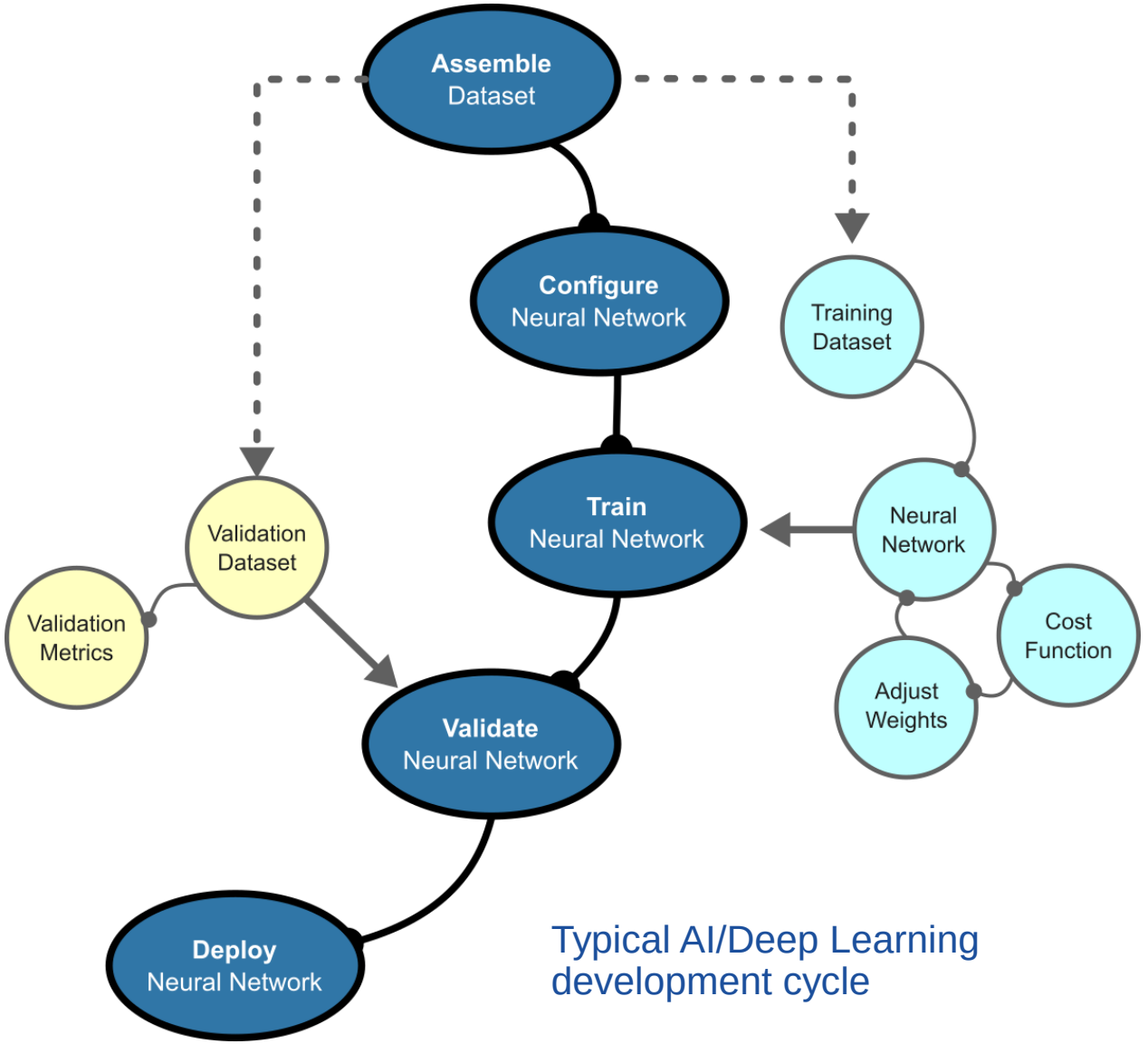
How to partition the computing? → **architecture** for processing

AI & Deep Learning is Demonstrating Real Value in Applications

New paradigm for machine vision and computer vision typically based on the use of **neural network** approaches.

Enabled by availability and **power of processors** e.g. GPU and freely available tools and network architectures.

Extremely **active focus** for companies, strategic investments, venture capital, start-ups, universities, M&A etc.



Typical AI/Deep Learning development cycle

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