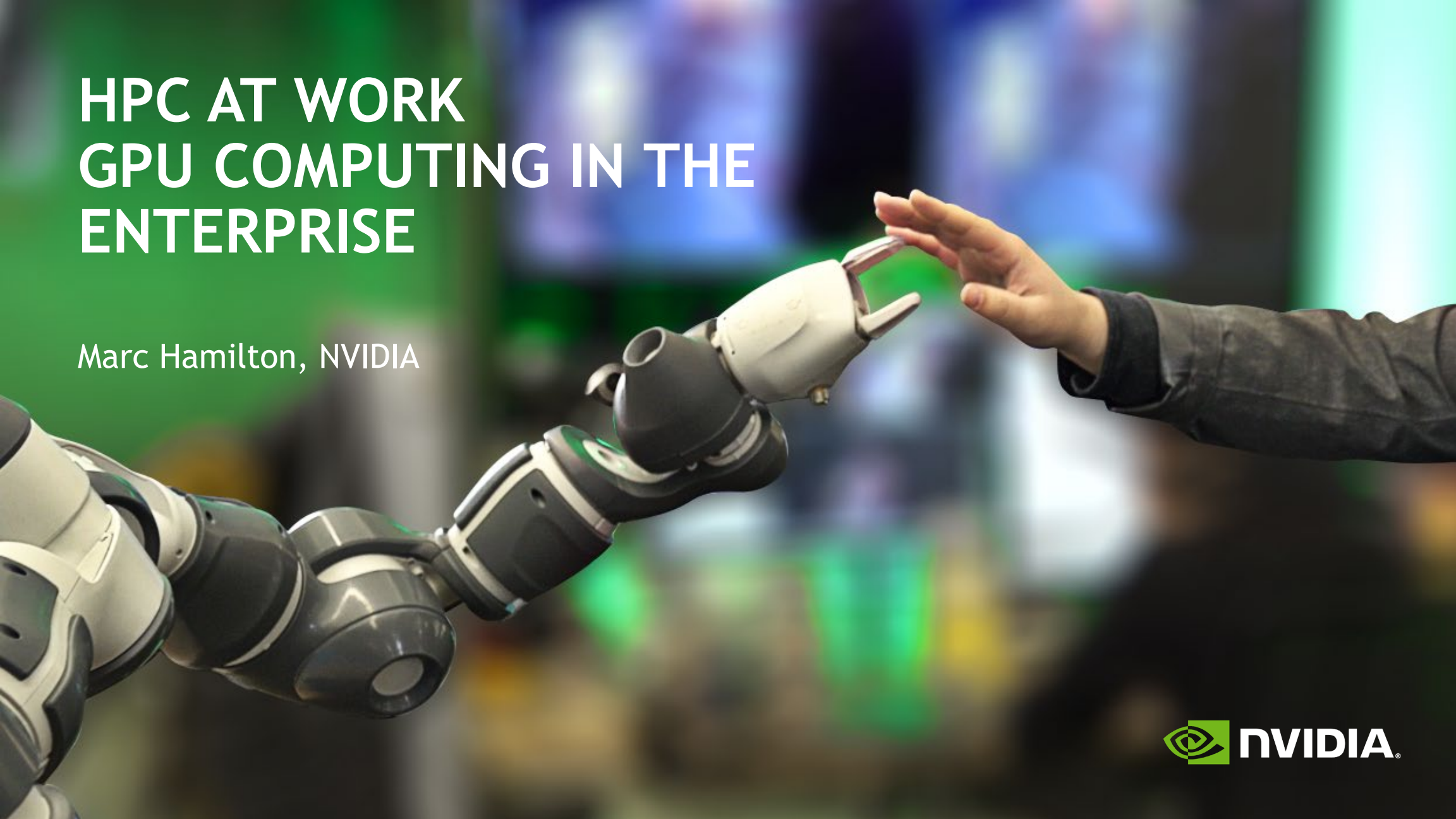
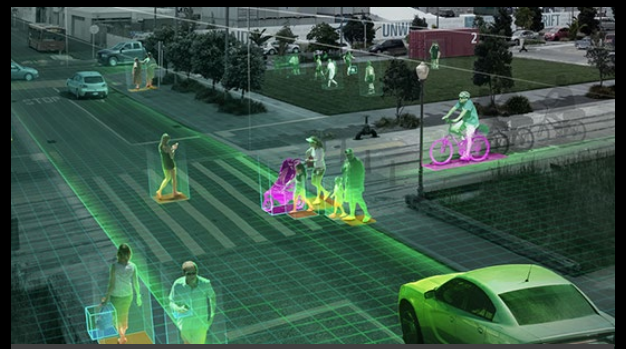
HPC AT WORK
GPU COMPUTING IN THE ENTERPRISE

Marc Hamilton, NVIDIA



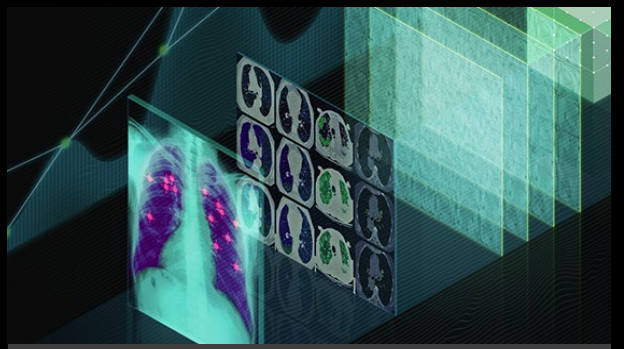
AI IS FUELING GLOBAL INDUSTRIES

Multi-Trillion Dollar Global Industries Turning to AI

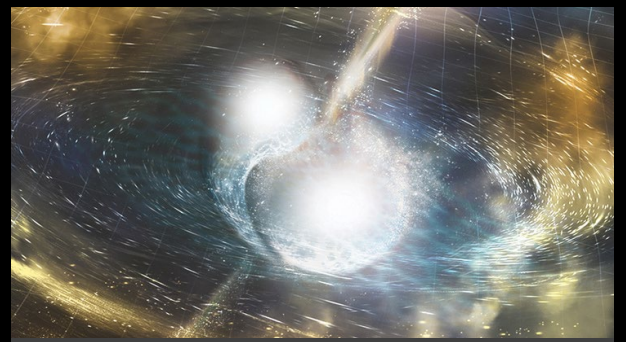


SMART CITIES

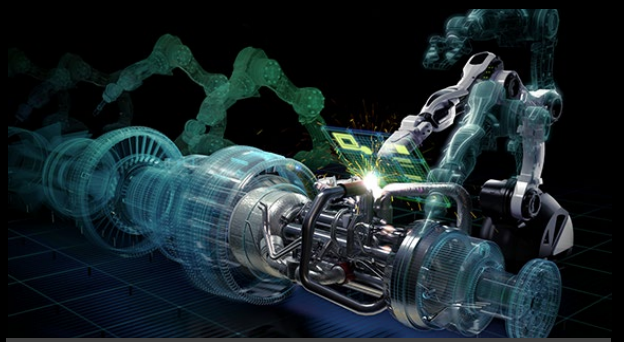
PUBLIC SAFETY



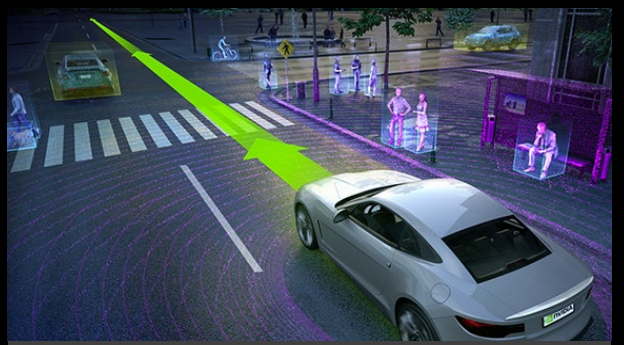
HEALTHCARE



STARTUPS



INDUSTRIAL



TRANSPORTATION

NVIDIA ACCELERATED COMPUTING

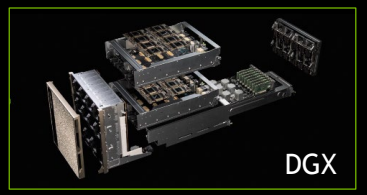
NVIDIA GPU CLOUD

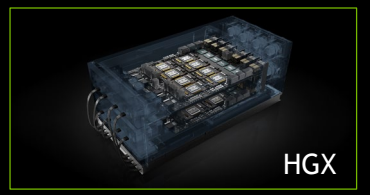
GAMING | HPC | TRANSPORTATION | HEALTHCARE

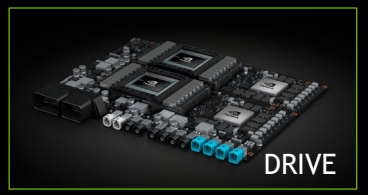
PRO VIZ | AI | ROBOTICS | AI IOT

CUDA-X

CUDA







THE PROMISE OF AI

Increased access to healthcare

Improved patient outcomes

Safer cities

Safer & more efficient transportation

Intelligent manufacturing

SOURCE: AI could contribute up to $15.7 trillion to the global economy in 2030, PwC, "Sizing the prize: What's the real value of AI for your business and how can you capitalise?" 58 million new jobs created by AI by 2022 and 54% of jobs requiring reskilling, World Economic Forum, "The Future of Jobs."

NGC APPLICATION ACCELERATION STACKS

Wealth of Accelerated Apps Maximize Datacenter Throughput, Utilization, Efficiency

SCIENCE

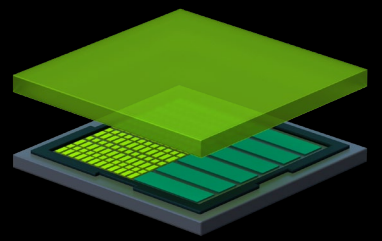
DATA ANALYTICS

DEEP LEARNING

MACHINE LEARNING

HYPERSCALE INFERENCE

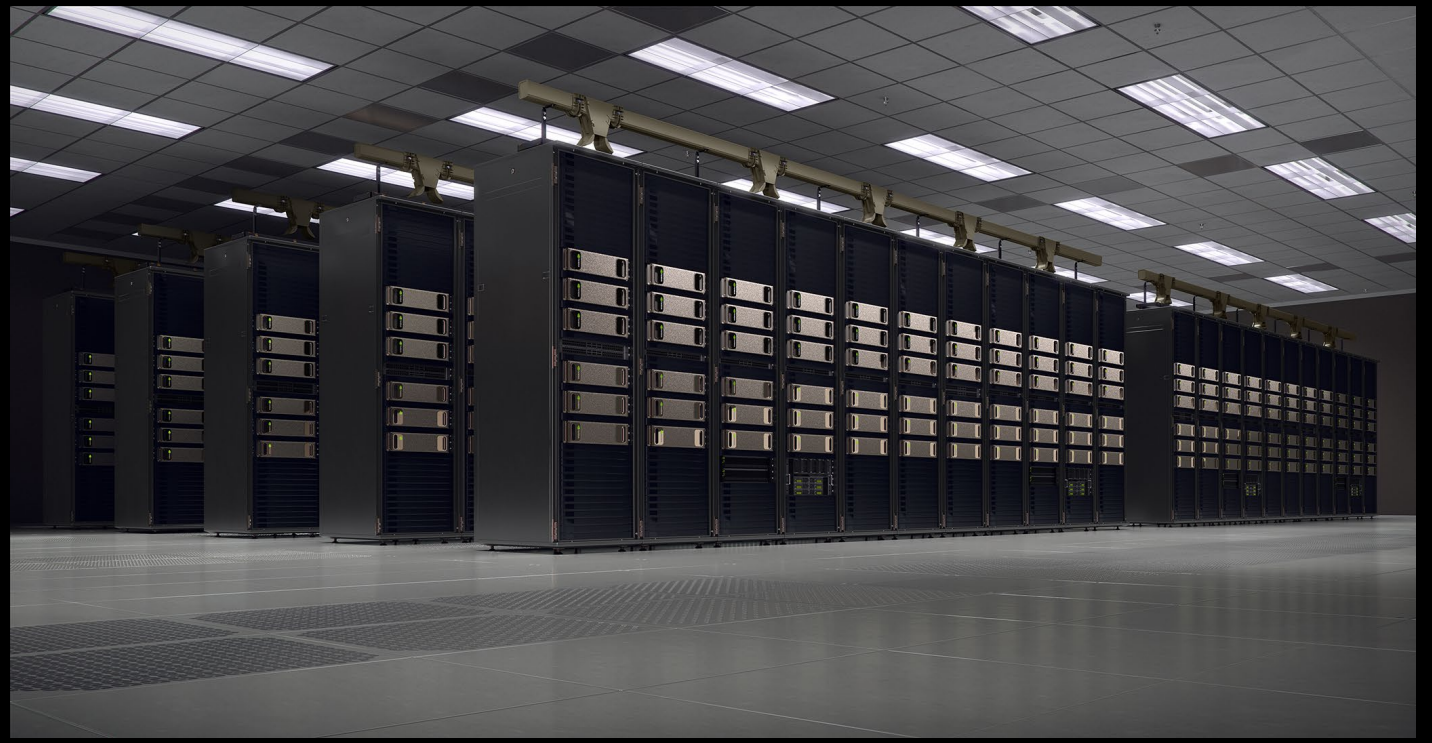
RENDERING & VIZ

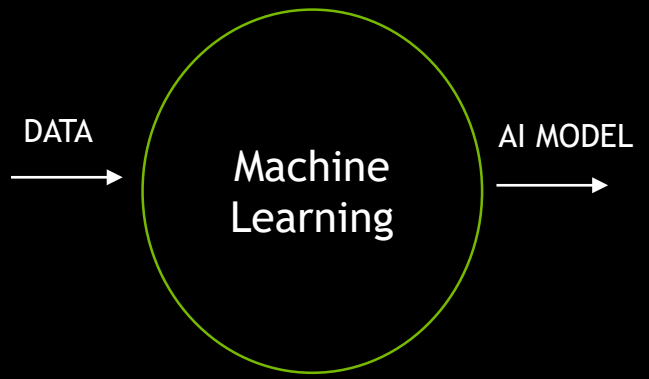


CUDA

GPU

AI LEADERSHIP NEEDS AI INFRASTRUCTURE LEADERSHIP





SATURNV

The Worlds Largest Enterprise AI Infrastructure Buildout

1500 DGX Nodes

12,600 GPUs

1.5 ExaFLOPs

5MW Average Power

SATURNV CIRCE

#61 Top500 With Only 36 Nodes

36 DGX-2H Servers

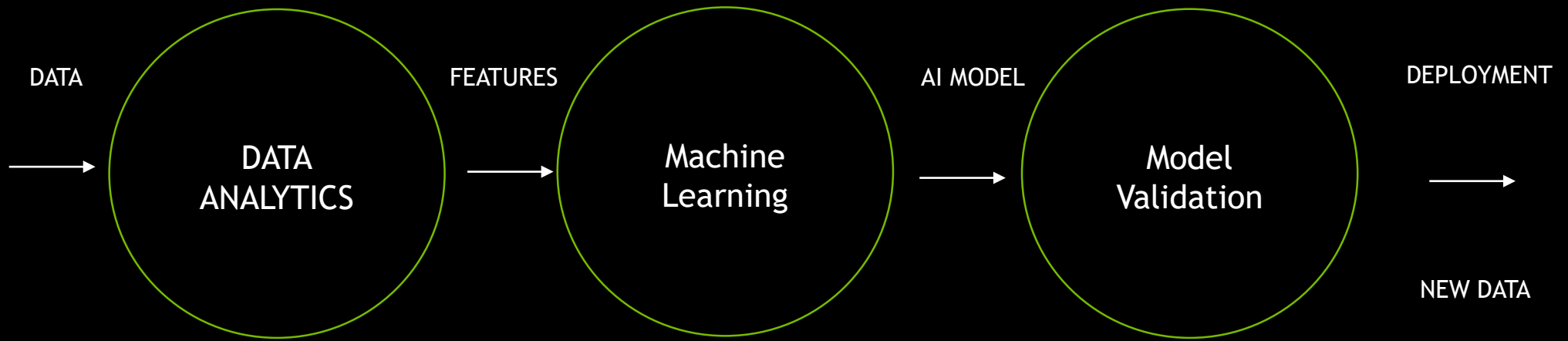
576 NVIDIA GPUs

3.057 TF Linpack

MLPerf record holder

Close-up on NVIDIA DGX POD™

DATA IS THE NEW SOURCE CODE



Pandas, Spark, Graph

TensorFlow, Scikit-Learn, XGBoost

CNN, LSTM, BERT, GAN

HEALTHCARE DATA IS ENORMOUS

The Perfect Fuel For AI

Genomics Data
2x/7Months

Instrument Data
3+ TB/day

Hospital Data
50 PB/Year

MEDICAL IMAGING

Essential tool of early detection and disease management

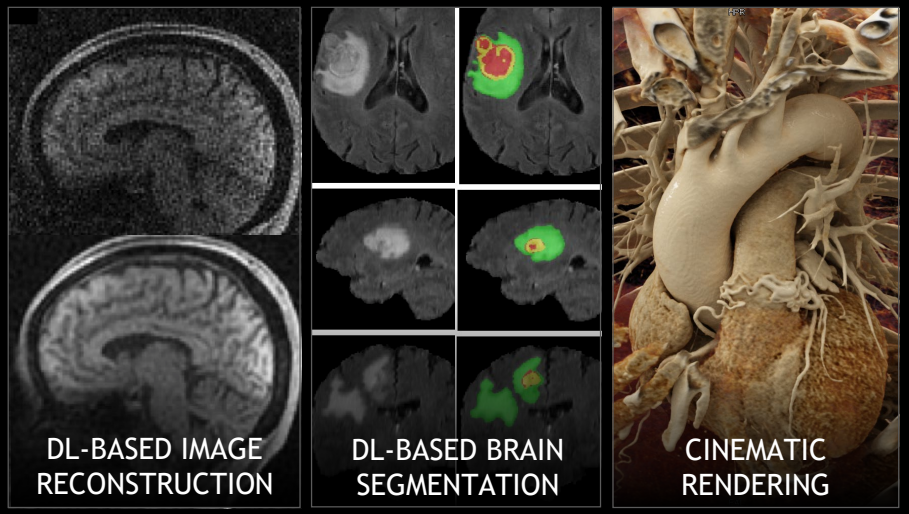
Demand outpacing supply of world's radiologists

Imaging field enormously complex

Perfect application for AI

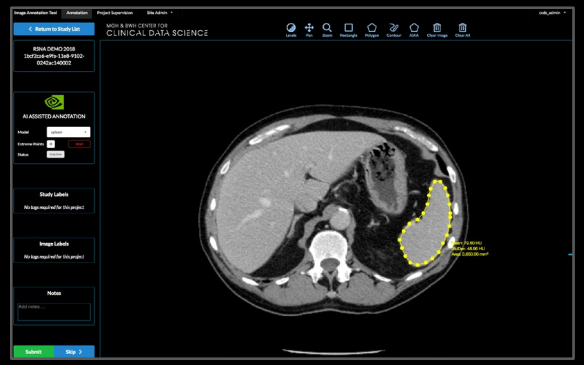
70%
Medical Imaging Research based on DL Today

$8.6B
Annual Software Revenue for AI Use Cases by 2025



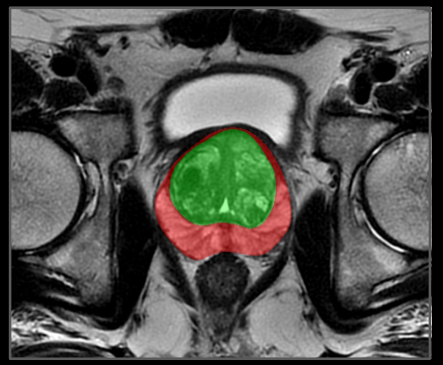
SOURCE: Global software revenue from 22 key healthcare AI use cases will grow to $8.6 billion annually by 2025, Tractica, "Artificial Intelligence for Healthcare Applications."

CLARA AI – BUILT FOR RADIOLOGY



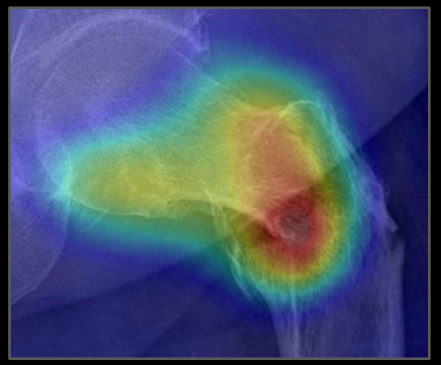
MGH

3D Annotation from Hours to Minutes



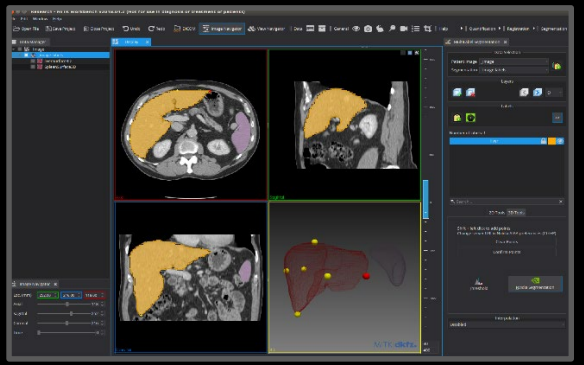
NIH

Trained State-of-the-Art Model in Weeks



OSU

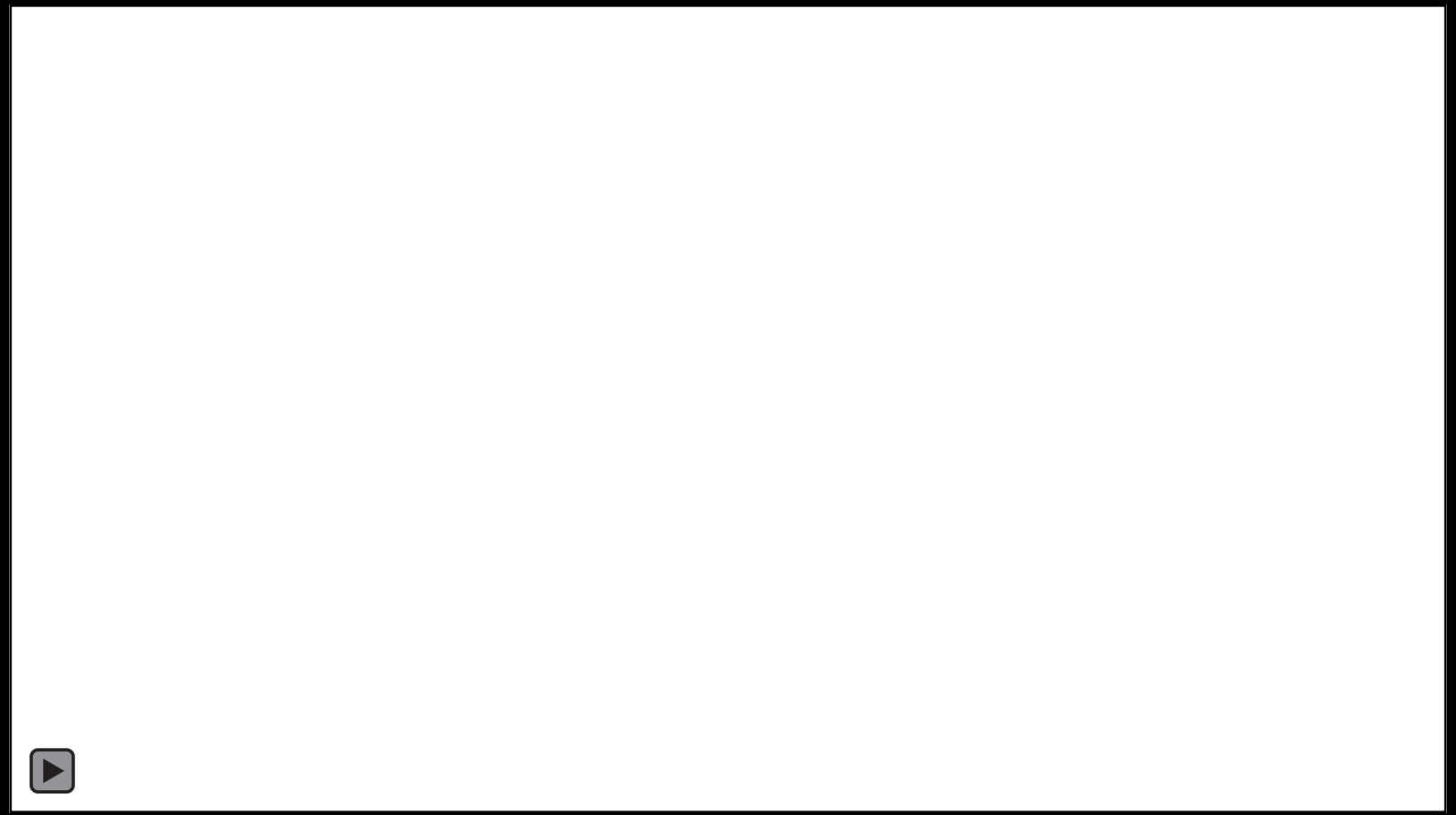
Clinical Model Deployment in Less Than 24 hours



DKFZ

Clara AI Annotation Integrated in MITK Open Source Viewer

AI-ASSISTED ANNOTATION



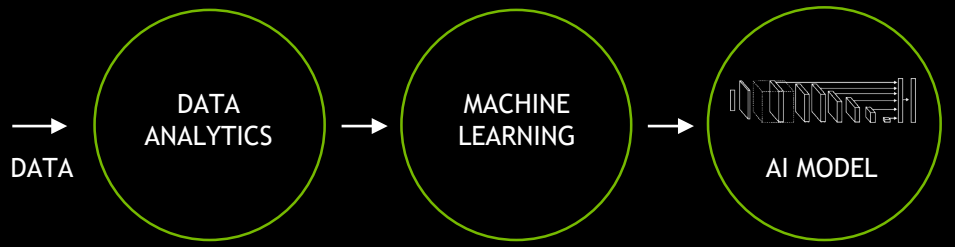
KING'S COLLEGE LONDON & NVIDIA

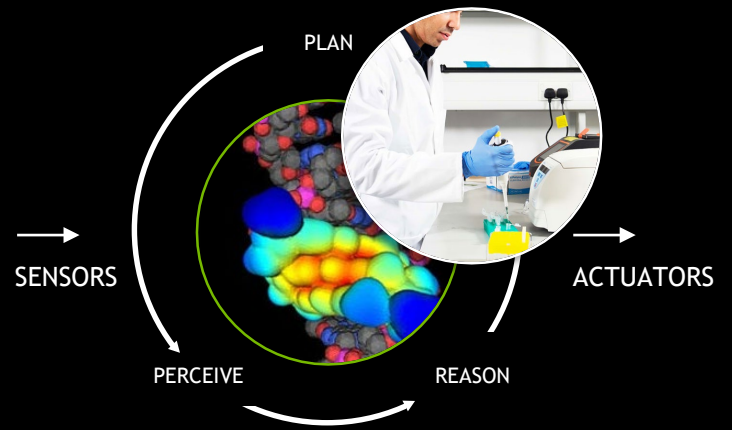
Bringing Clara AI TO UK's NHS Hospitals

Developing AI Training Tools for Imaging, NLP, Research

ATOM CONSORTIUM FOR DRUG DISCOVERY

Britain's GlaxoSmithKline, US National Cancer Institute, NVIDIA





ATOM

NVIDIA

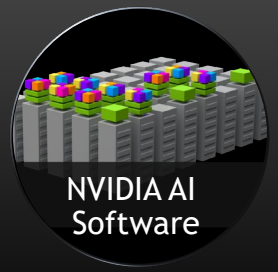
OXFORD NANOPORE & NVIDIA AGX PERSONAL DNA SEQUENCER

MinIT Powered by Jetson AGX
PromethION Powered by
4 V100 GPUs

Oxford NANOPORE Technologies

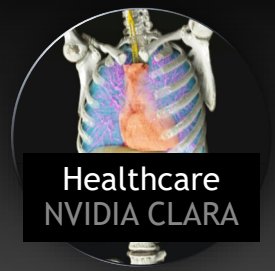
AI FOR TRANSPORTATION: NVIDIA DRIVE

NVIDIA PARTNERSHIP FRAMEWORK



TECHNOLOGY & ECOSYSTEM

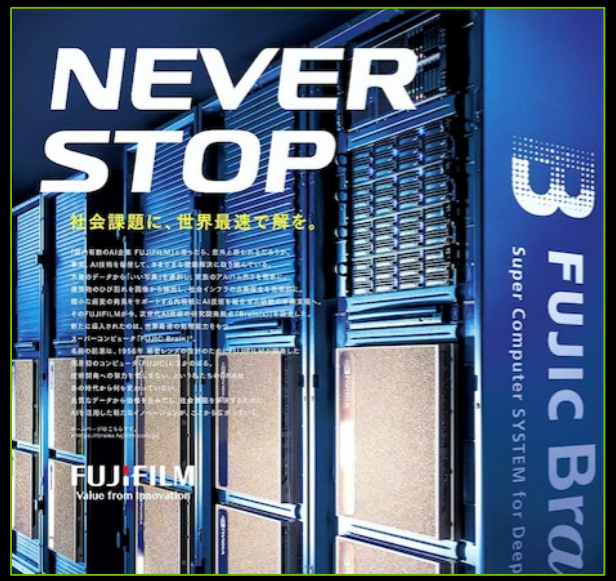
EXPERTISE & INVESTMENT

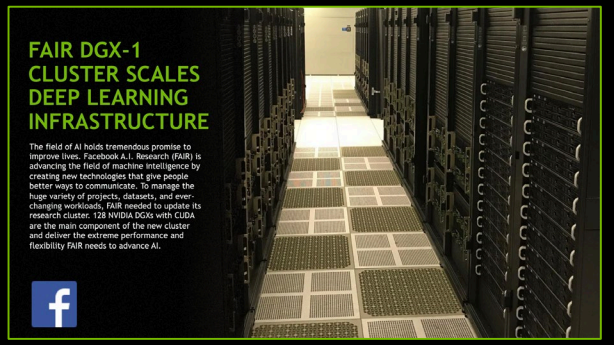


INDUSTRY SOLUTION PLATFORMS

AI-AT-SCALE SUCCESS - BUILT ON NVIDIA DGX

- Organizations around the globe build AI at scale with DGX






NVIDIA