# There's Now No Reason To Hide From Big Projects

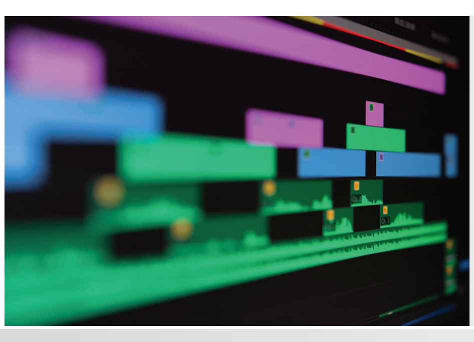
You may have already experienced big project slow-downs today.

This simple chart helps explain common causes and how to solve them in two of the most demanding workloads.

## 8K BROADCAST & MEDIA PROJECTS

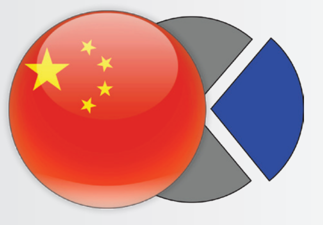
## CAE SIMULATION & VALIDATION WORKLOADS

## BACKGROUND

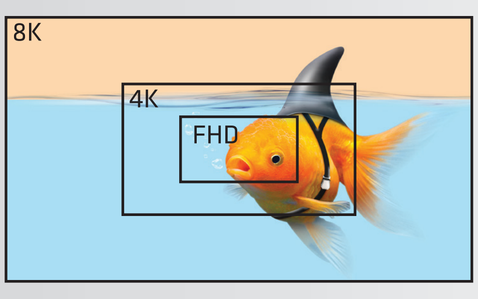


JAPAN
LEADING IN 8K BROADCASTING FROM
2018

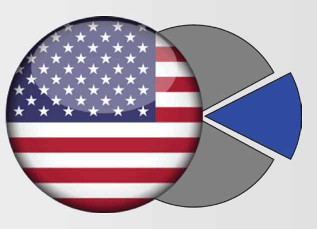
WORLD MANUFACTURING OUTPUT (USD, 2018)[1]



CHINA
$4 trillion
28%



8K IMAGE CONTAINS
33,177,600
PIXELS[2]



US
$2.3 trillion
17%

## OUTLOOK

USD
$15.96BLN
8K market size by 2025[3]

32.9%
CAGR OVER 2020-2025[3]

USD
$19.4bln
SIM S/W MARKET SIZE BY 2025[4]

15.3%
CAGR OVER 2020-2025[4]

## TRENDS

1. 8K IS BECOMING THE NEW STANDARD
2. INCREASING PROJECT SCALE
3. MULTI-STREAM AND MULTI-CHANNEL WORKFLOWS
4. SOFTWARE INTERACTIVITY IS A MUST

1. DESIGN VALIDATION SIMULATIONS
2. COMPLEX VIRTUAL TESTING
3. DATA AND MATERIAL ANALYSIS
4. INTRICATE DIGITAL TWINS

## CHALLENGES

**Chris**
Video Editor

**Emma**
Design Engineer

"8K is the buzzword but my projects are more than that. Today, our standard workflow is a real-time, multi-stream setup. I can't have enough screen space."

"My simulations can take between 4-8 hours each. I need better compute performance to speed these up."

**SOLUTION**

SUPPORT FOR
6x UHD Screens
ENHANCING MULTI-STREAM WORKFLOWS

UP TO
6.5 TFLOPS
DOUBLE PRECISION PERFORMANCE

"Speed and Quality. I can't sacrifice either. I guess the key challenge is to keep the whole workflow efficient."

"Given their complexity, my workloads are very memory-heavy. We just cannot afford to run into memory errors."

**SOLUTION**

ULTRA-FAST
HEVC Encode & Decode
HIGH QUALITY & POWER-EFFICIENT VIDEO PROCESSING UP TO 8K[5]

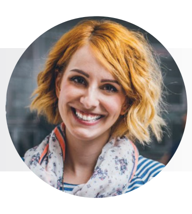
UP TO
16GB HBM2 ECC
FOR LARGE SIMULATION PROJECTS REDUCING COMMON ERRORS

**SOLUTION**

SUPPORT FOR
PCIe® 4.0
EVEN MORE WORKLOAD ACCELERATION

UP TO
1024GB/s Bandwidth
FOR EXTREME MEMORY-INTENSIVE WORKLOADS

"Ideally, the graphics hardware should provide an easy way to add on the rendering power as my projects grow in scale."

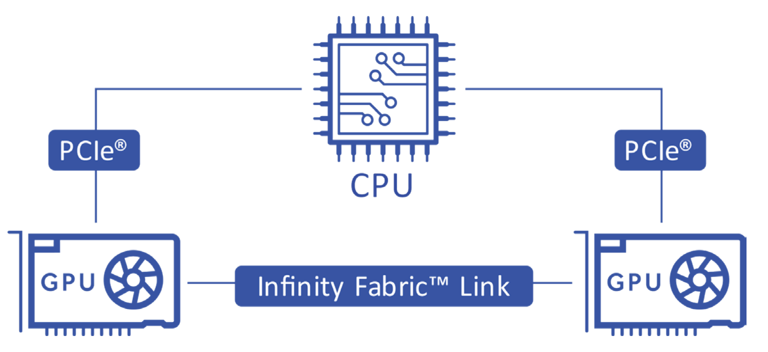


"Basics are not to be ignored either. There is little use for more calculating power if the system fails due to thermal overload."

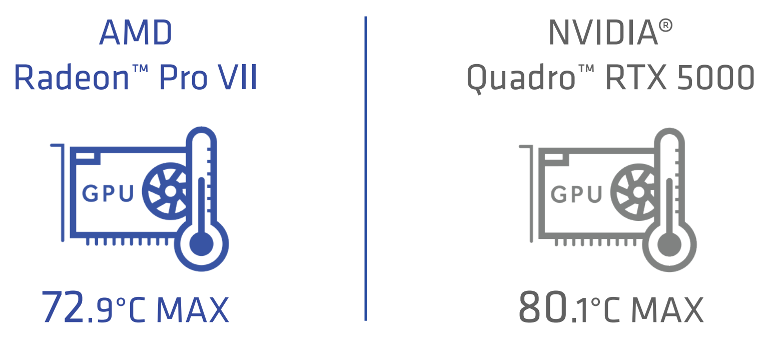
**SOLUTION**

SUPPORT FOR
Infinity Fabric™ Link
WORKLOAD CAPABILITIES AT UP TO 168 GB/S[6]

ADMIRABLE COOLING
Up to 10% cooler
THAN THE COMPETITION[7]



2XGPU CONFIGURATION



UNDER THE SAME INTENSE WORKLOAD

**"I need a professional yet reasonably priced GPU capable of dealing with complex 8K and 4K daily workloads."**

**"I need an affordable solution for accelerating my double precision simulations, that has good data handling."**

# MEET THE NEW STANDARD

WHY?
The "Vega" chip architecture of the Radeon™ Pro VII GPU is ideally suited to different codecs, projects and workflows when the GPU is placed under large task and resolution stresses. In this situation the large amount of Compute Units and Processor Streams of the ultra-fast GPU help ensure project interactivity remains.

WHY?
The "Vega" chip architecture of the Radeon™ Pro VII GPU offers an excellent compute engine with affordable double precision performance, helping CAE simulation software perform quicker under heavy simulation workloads. Combined with support for ultra-fast PCIe® 4.0, I/O bottlenecks are crushed.

AMD
RADEON PRO VII

## PROFESSIONAL PERFORMANCE LEADERSHIP

### ADOBE® AFTER EFFECTS

VS. NVIDIA® QUADRO® RTX 5000
UP TO
25%
BETTER PERFORMANCE IN C4D TEST PROJECT (FULL RES)[8]

### NUKE®

VS. NVIDIA® QUADRO® RTX 5000

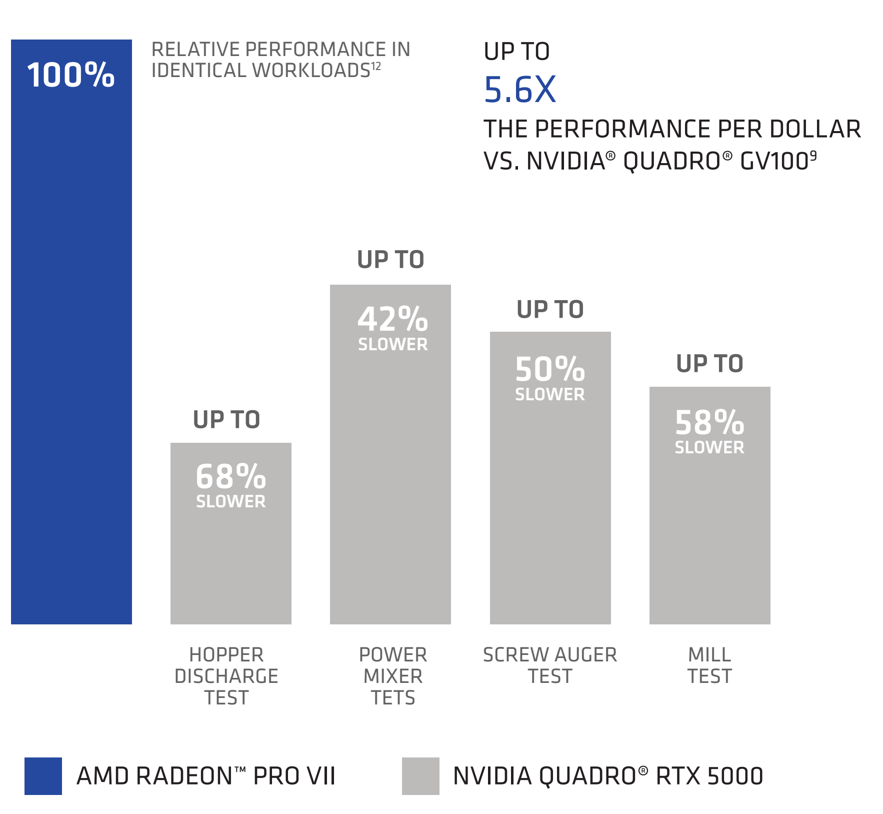
UP TO
25%
BETTER PERFORMANCE IN DENOISE TEST[10]

UP TO
16%
BETTER PERFORMANCE IN SMART VECTOR TEST[10]

### DAVINCI RESOLVE STUDIO

VS. NVIDIA® QUADRO® RTX 5000
UP TO
9%
BETTER PERFORMANCE IN 4K RED® WORKFLOW SCORES[11]

### ALTAIR



UP TO
5.6X
THE PERFORMANCE PER DOLLAR VS. NVIDIA® QUADRO® GV100[9]

**To learn more about AMD professional graphics visit: amd.com/RadeonPro**

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1. Source: https://howmuch.net/articles/map-worlds-manufacturing-output
2. 8K is defined as measuring 7680x4320 pixels
3. Source: https://mordorintelligence.com/industry-reports/8k-market
4. Source: https://www.reportlinker.com/p05826096/Global-Simulation-Software-Market
5. HEVC (H.265), H.264, and VP9 acceleration are subject to and not operable without inclusion/installation of compatible HEVC players. GD-81
6. AMD Infinity Fabric™ Link requires two Radeon Pro VII GPUs, a compatible bridge connector (either a two- or a three-slot bridge connector, both sold separately.), and Radeon Software for Enterprise driver 20.Q2 or later. Compatible software is currently limited to Radeon™ ProRender, but additional application compatibility is expected in future 3rd party software releases and are required to use the combined graphics memory of both cards. GD-169
7. RPW-321: Testing performed on April 23, 2020 by AMD Performance Labs on a production test system comprised of an AMD Ryzen 5 3600, Windows® 10 1903, AMD Radeon™ Pro VII, AMD Radeon™ Software for Enterprise 20.Q2 Pre-release version/NVIDIA Quadro® RTX, NVIDIA Quadro® Optimal Driver for Enterprise (ODE) R440 U6 (442.5) using AMD Internal Benchmark for thermal stress test inside a 20°C thermally controlled chamber. Results may vary. RPW-321
8. Testing as of April 02, 2020 by AMD Performance Labs on a production test system comprised of an Intel® Xeon® W-2125, 32GB HBM2 RAM, Windows® 10 Pro for Workstations, 64-bit, System BIOS 1.11.1, AMD Radeon™ Pro VII, AMD Radeon™ Software for Enterprise 20.Q2 Pre-release version/NVIDIA Quadro® RTX, NVIDIA Quadro® Optimal Driver for Enterprise (ODE) R440 U6 (442.5) using PugetBench for Adobe After Effects v. 0.82 beta, Commercial version. Results may vary. PugetBench is from Puget Systems. RPW-306. RPW-306
9. Testing as of April 29, 2020 by AMD Performance Labs on a production test system comprised of an Intel® Xeon® W-2125, 32GB HBM2 RAM, Windows® 10 Pro for Workstations, 64-bit, System BIOS 1.11.1, AMD Radeon™ Pro VII, AMD Radeon™ Software for Enterprise 20.Q2 Pre-Release version /NVIDIA Quadro® RTX, NVIDIA Quadro® Optimal Driver for Enterprise (ODE) R440 U6 (442.5) using AMD Internal Benchmark for ALTAIR EDEM™. Results may vary. RPW-320
10. Testing as of April 02, 2020 by AMD Performance Labs on a production test system comprised of an Intel® Xeon® W-2125, 32GB HBM2 RAM, Windows® 10 Pro for Workstations, 64-bit, System BIOS 1.11.1, AMD Radeon™ Pro VII, AMD Radeon™ Software for Enterprise 20.Q2 Pre-Release version/NVIDIA Quadro® RTX, NVIDIA Quadro® Optimal Driver for Enterprise (ODE) R440 U6 (442.5) using AMD Internal Benchmark for Nuke 12.1. Results may vary. RPW-309
11. Testing as of April 02, 2020 by AMD Performance Labs on a production test system comprised of an Intel® Xeon® W-2125, 32GB HBM2 RAM, Windows® 10 Pro for Workstations, 64-bit, System BIOS 1.11.1, AMD Radeon™ Pro VII, AMD Radeon™ Software for Enterprise 20.Q2 Pre-release version/NVIDIA Quadro® RTX, NVIDIA Quadro® Optimal Driver for Enterprise (ODE) R440 U6 (442.5) using PugetBench for DaVinci Resolve Studio v. 0.6 Beta. PugetBench by Puget Systems. Results may vary. RPW-310.
12. Testing as of April 29, 2020 by AMD Performance Labs on a production test system comprised of an Intel® Xeon® W-2125, 32GB HBM2 RAM, Windows® 10 Pro for Workstations, 64-bit, System BIOS 1.11.1, AMD Radeon™ Pro VII, AMD Radeon™ Software for Enterprise 20.Q2 Pre-release version/NVIDIA Quadro® RTX, NVIDIA Quadro® Optimal Driver for Enterprise (ODE) R440 U6 (442.5) using AMD Internal Benchmark for ALTAIR EDEM™. Results may vary. RPW-319

* Learn more at https://www.amd.com/en/technologies/vr-ready-creator.