



BUILDING A CLOUD HPC ARCHITECTURE

PUNCH TORINO PARTNERS WITH ALTAIR TO BUILD A NEW HPC INFRASTRUCTURE

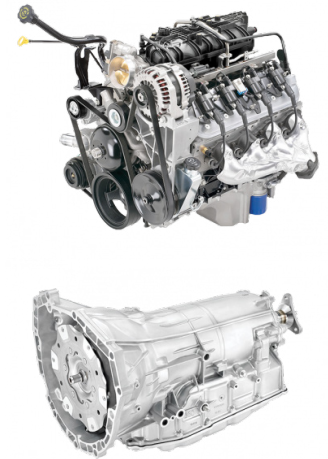
About the Customer

PUNCH Torino S.P.A. specializes in designing and developing innovative propulsion systems and control solutions. Founded in 2005 by GM as General Motors Powertrain Europe, in 2020 the company became part of PUNCH Group, a leading developer, integrator, and manufacturer of driveline and powertrain solutions. PUNCH Torino delivers best-in-class technology solutions and continuously pushes boundaries, studying new technologies like virtual analysis and simulation, leading research activities with universities and organizations in the context of European Union funding programs, and supporting start-up creation.



By partnering with Altair, we implemented a brand new HPC cloud architecture in just a few weeks without impacting users' work. The new infrastructure enables our team to get critical engineering work done quickly and efficiently without the headaches of operating an on-premises data center.

Mauro Bigli,
CIO PUNCH Group



Their Challenge

After joining PUNCH Group, the team at PUNCH Torino faced a new set of IT infrastructure challenges and recognized the need to **build a new HPC infrastructure from scratch** to accommodate their users' technology needs. After extensive research, they elected to avoid the expense and maintenance issues inherent in on-premises computing, and instead they determined that the smartest plan would be to set up a **complex, multi-vendor cloud architecture**. To accomplish that, they needed an expert partner with both broad and deep understanding of a range of technical knowledge, including high-performance computing (HPC).

Our Solution

PUNCH partnered with Altair's technology experts to plan, implement, and configure the new HPC cloud architecture. Components of the solution include Altair® PBS Professional® for optimized workload management and cloud bursting; Altair® Control™ to empower PUNCH's IT team with tools for monitoring, configuration management, and reporting; and Altair® Access™ to give users a **variety of easy cloud options via an easy-to-use portal**. The collaboration required detailed planning and precise timing to pull together all the elements of the new infrastructure and optimize its performance without impacting users' work. The solution was designed to take advantage of several different cloud providers including Google Cloud, Azure, Oracle Cloud, and AWS.

The Altair and PUNCH teams stayed in close communication from start to finish, resulting in project completion within just a few weeks. Altair's Roberto Cossa says, "The success of the final configuration was the result of well-planned and coordinated activity by PUNCH's IT team and by our experts." Altair's broad range of technology resources and innovative HPC and cloud solutions drove PUNCH Torino's decision to select Altair not just as a software vendor, but as a technology partner who would clear the path to an optimized HPC solution. The result was a complex, robust, and carefully planned infrastructure that supports critical engineering work, granting users access to an agile and scalable cloud bursting strategy — and **ultimately improving both user satisfaction and productivity**.

Results

With a **reliable, flexible cloud infrastructure** up and running, the PUNCH team can easily manage multiple vendors, and their users have the freedom to choose the best solution for their requirements while optimizing for both price and performance. Altair tools facilitate these parameter-bound selections and **maximize performance without compromising important work**. The new architecture also positions PUNCH to benefit from today's rapidly changing cloud offerings.

PUNCH Torino designs and develops engines from concept to serial production, with a flexible and agile approach.