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# Forum 2020 Teratec Digital

*Unlock the future!*



13 & 14 OCTOBRE  
OCTOBER 13 & 14

SIMULATION  
BIG DATA  
HPC  
IA

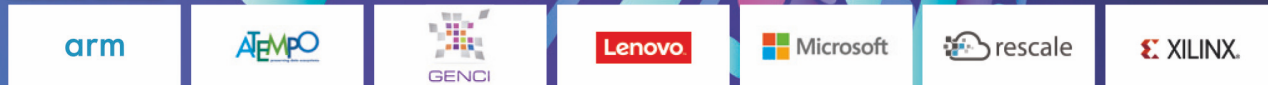
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PARTENAIRE  
EUROPA VILLAGE





# Cloud Computing et HPC:

Une complémentarité au service de nouveaux usages



Philippe Bricard	UCIT	Cloud Computing et HPC: Une complémentarité au service de nouveaux usages
Wim Slagter	Ansys	HPC from Desktop to Cloud: An ISV point of view on deployment models
Gilles Tourpe	AWS	Innovating without infrastructure constraints
Guillaume Martinat	Flying Whales	
Jean-Frederic Thebault	Storengy	High Performance Computing sur AWS
Guillaume Trainar	Rescale	Rescale, une plate-forme "As a Service" pour la simulation dans le cloud
Philippe Peron	eMotors	
Alexandre Jean	Microsoft	Microsoft Azure pour le HPC et Nouveaux Usages nés dans le cloud
Gabriel Sallah		

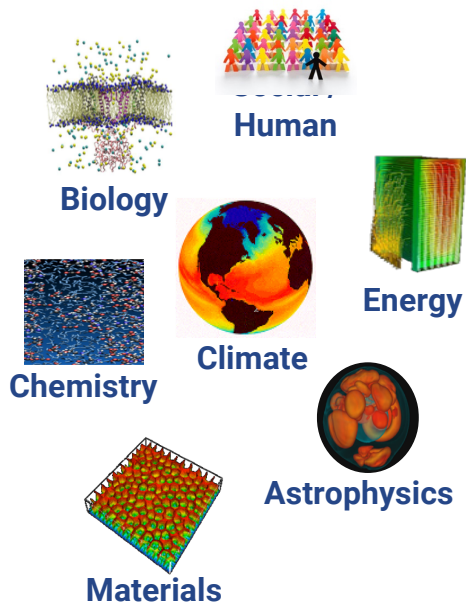




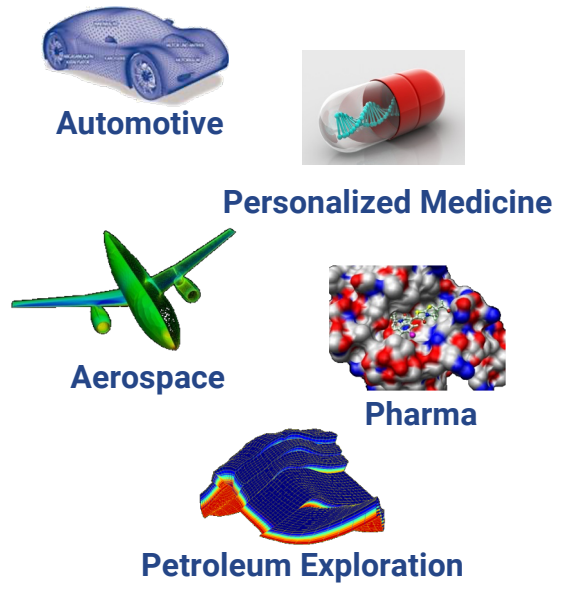
**Cloud Computing et HPC:  
Une complémentarité au  
service de nouveaux usages**

14/10/2020

## Scientific Research



## Industrial Innovation



## Decision Making



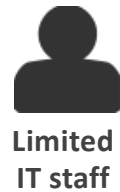
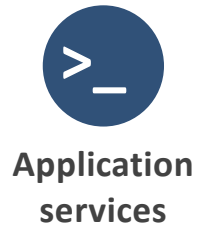
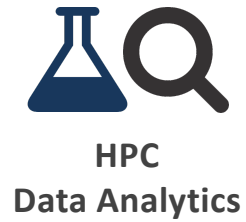
When Statistical analysis complements Equation solving

Bring Data to Compute

Shorter Time to value

Bring Compute to Data

# The need for HPC-as-a-Service



**HPC AS A SERVICE YES**



**BUT**

**WHAT'S THE UNIQUENESS OF THE CLOUD?**

- The Scale
  - Almost unlimited resources
- Pay-as-you-go
  - Running 1000 jobs in parallel costs the same as running one job at a time, in a queue
- Create and Dispose
  - OnPrem the lifecycle of a HPC system is 3-5 years
  - On Cloud “Clusters” are created and destroyed according to actual loading and application requirements



- Match the Architecture to the Job!
  - Architecture adapt to **technical** and **business** requirements
    - On a “per-application” basis
      - E.g. Compute vs GPU vs IOPS vs Memory vs I/O -bound apps
    - On a “per-cost-profile” or “service level agreement” basis
      - E.g. “Spot” vs “On-Demand” vs . . .
  - Architecture **evolve** to leverage Cloud rate of innovation
    - Immediately leverage new products and services
      - E.g. New AWS instance types and services which optimize performance and/or costs

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*Thanks*

***STAY SAFE***