



**SEVENTH FRAMEWORK PROGRAMME  
Research Infrastructures**

**INFRA-2007-2.2.2.1 - Preparatory phase for 'Computer and Data  
Treatment' research infrastructures in the 2006 ESFRI Roadmap**



**PRACE**

**Partnership for Advanced Computing in Europe**

**Grant Agreement Number: RI-211528**

**D3.2.2  
Second Industry Seminar**

***Final***

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## Project and Deliverable Information Sheet

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## Document Control Sheet

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## Document Keywords and Abstract

<b>Keywords:</b>	PRACE, HPC, HET, industry needs, industrial usage definition
<b>Abstract:</b>	<p>This document is intended to cover all parts of the planning, execution and analysis of the Second Industry Seminar organized by GAUSS, and GENCI with the sponsorship of Airbus, Grand Toulouse and Midi Pyrénées Region in Toulouse the 7–8<sup>th</sup> September 2009.</p> <p>Around 103 attendees representing 57 companies were attending this event. It was one year after the First Industry Seminar in Amsterdam – an opportunity for PRACE to meet again and intensify the contacts with the European industry community.</p> <p>It allowed PRACE to present the project and the attendees to discuss and exchange ideas about HPC in industry as a tool for increasing competitiveness and accelerating innovation.</p> <p>Three parallel sessions gave an opportunity to gather industry’s needs and expectations about PRACE and to elaborate how the project will build a pertinent European industrial HPC infrastructure.</p>

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## References and Applicable Documents

- [1] <http://www.prace-project.eu>
- [2] <http://www.prace-project.eu/news/prace-organises-an-industry-seminar-for-potential-european-high-performance-computing-users>
- [3] <http://hpc.science.doe.gov/>

## List of Acronyms and Abbreviations

EC	European Commission
GENCI	Grand Equipement National de Calcul Intensif
GAUSS	Alliance of the three national supercomputer centres FZJ-JSC, USTUTT-HLRS and BADW-LRZ
HET	High Performance Computing in Europe Taskforce. Taskforce by representatives from European HPC community to shape the European HPC Research Infrastructure.
HPC	High Performance Computing; Computing at a high performance level at any given time; often used synonym with Supercomputing.
INCITE	Innovative and Novel Computational Impact on Theory and Experiment
PRACE	Partnership for Advanced Computing in Europe; Project Acronym
PRACE 1IP	Partnership for Advanced Computing in Europe Implementation Phase project
SME	Small and Medium Enterprises
WP3	PRACE Work Package 3: Dissemination, Outreach and Training
WP4	PRACE Work Package 4: Distributed system management
WP6	PRACE Work Package 6: Software enabling for Petaflop/s systems
WP8	PRACE Work Package 8: Future Petaflop/s computer technologies beyond 2010



## Executive Summary

The Second Industry Seminar entitled “Industrial Competitiveness: Europe goes HPC“ was organized by GAUSS and GENCI in Toulouse on September 7–8<sup>th</sup> 2009, it received an active sponsorship from Airbus, Grand Toulouse and the region Midi Pyrénées.

The seminar was organized on a two half days format: it took place on Monday 7<sup>th</sup> at the Mercure ATRIA Hotel and on Tuesday 8<sup>th</sup> at Airbus “AeroConstellation” site dedicated to the assembly of the Airbus A380 airplane.

On Monday 7<sup>th</sup> the seminar started with an introduction by C. Riviere (GENCI) and a speech from P. Cohen (Mayor of Toulouse). Mr K. Glinos (Head of Géant & EC *e*-Infrastructures Unit) gave a presentation about the EC vision for *e*-infrastructures, it was followed by PRACE detailed presentations from Prof. T. Lippert (GAUSS) for the strategic vision and from four representatives from WP3, WP4, WP6 and WP8 for details about some project results with a high interest to industrial attendees.

Following the previous First Industry Seminar concept, speakers from Airbus/Aerospace Valley (the biggest industrial cluster in Europe located in Toulouse and dedicated to aeronautics and aerospace), BMW (for the automotive), ZKB (for finance) and from two Europeans SMEs (Prospect FS in UK and Free Field Technology in Belgium) showcased their HPC usage for increasing their competitiveness and how PRACE may help them.

The first day was concluded by three parallel sessions in which attendees were invited to have in depth discussions about their needs and expectations about PRACE, the topics had been gathered during face-to-face meetings between the two seminars and included discussions about:

- Business models and organisations,
- Network and security aspects,
- Training/User Support and relations with ISVs.

On Tuesday 8<sup>th</sup> in a very symbolic location for the European industry, the Airbus A380 assembly site (called AeroConstellation) the attendees had final wrap up presentations about the parallel sessions, discussions and the seminar. Thanks to Airbus it was possible to visit the complete Airbus A380 FAL (Final Assembly Line) in which airplane’s parts received from all over Europe are assembled together.

This event allowed the attendees to galvanize the European spirit in a moment in which PRACE plans to deploy the “Airbus of HPC”!

One of the goals of the seminar was a wide European attendance.

In 2008 the First Industry Seminar attracted a total of 93 attendees coming from 13 European countries and representing 35 European companies.

In 2009 despite of the economical crisis the Second Industry Seminar attracted a total of 103 attendees coming from 19 European countries (plus 2 EC representatives, one representative from USA and Russia) and representing 57 European companies spanning from major companies to SMEs.

Another goal was to discuss with the attendees about their needs and expectations about PRACE. The feedback collected during the seminar through discussions and evaluation forms is very promising.

The next step now is to organise during the final months of PRACE (and during the next PRACE IIP project) a dedicated follow up with each attendee in order to address more precisely its needs and expectations in order to elaborate a pertinent HPC industrial offer.

Feedbacks collected on the evaluation forms showed that the attendees are now very interested in PRACE and our final goal to aggregate an European industrial community around HPC has also been fulfilled.



## 1 Introduction

The overall objective of PRACE is to prepare the creation of a persistent pan-European HPC service creation. PRACE is divided into a number of inter-linked work packages.

The scientific case developed by HET confirmed that access to a research infrastructure with tier-0 resources and cooperation between scientists in academia and industry for grand challenge applications are critical for maintaining and improving the competitiveness of the European industry.

A liaison program with industries and businesses requiring extreme computing capability has been established in PRACE WP3 in order:

- to ensure that PRACE takes their needs for tier-0 resources into account
- to enable efficient technology and knowledge transfer

Through frequent contacts with industries and businesses, the consortium has been able to assess the impact of the tier-0 resource on European industries and businesses. In addition, two workshops dedicated to industry and business will be organized during the project.

Workshops resulted in an increased industrial interest for high-end computing and in the reinforcement of contact networks between industry and providers of computing services will be established. In addition, a few industrial pilot applications suitable for Petaflop/s scalability have been identified and ran on prototypes systems as a proof of the concept.

## 2 Goals of the Second Industry Seminar

As the First one, the Second Industry Seminar was designed exclusively for CEOs (Chief Executive Officer), CTOs (Chief Technical Officer), CIOs (Chief Information Officer), R&D Managers, responsible for research and development infrastructures in business sectors that are likely to benefit from the use of future HPC infrastructure deployed by PRACE.

After the First Industry Seminar and preparatory face to face meetings organized between the two seminars, it aimed to give to the European industry attendees detailed information about PRACE and to collect during parallel sessions their needs and expectations about the upcoming PRACE infrastructure and associated services which will be deployed starting in 2010.

This feedback and the associated follow up for each interested attendee will be used after the two seminars to elaborate an industrial offer for PRACE compatible with the attendees' expectations and the project goals.

The name of the Second Industry Seminar was maintained from the first seminar for industrial users:

### **Industrial Competitiveness: Europe goes HPC**

in order to insist on the gain of competitiveness for the industry provided by the use of HPC.

### 3 Organising Committee

The PRACE Second Industry Seminar was organized jointly by GAUSS (Germany) and GENCI (France).

The following persons composed the Organising Committee:

- Florian Berberich (GAUSS)
- Carlos Merida (BSC)
- Naomi Messing-Klopstra (NCF)
- Mark Parsons (EPSRC)
- Stéphane Requena (GENCI)

A mailing list “*prace-industry@fz-juelich.de*”, created already for the first industry seminar was used in order to connect all the persons involved on the Organising Committee. This email has been used for all the invitation process and the communication with the potential and final attendees.

### 4 Addressing the Target Audience

Raising the interest of the top-level representatives or large European companies for a two half days event on a topic that might not be in the focus of their attention, in particular in times of economic crisis, is a challenge of its own. The Organizing Committee, supported by the PRACE Management Board, Airbus, Grand Toulouse and the region Midi Pyrénées as active sponsors decided on a set of measures to achieve the maximum attractiveness of the event:

- A program with a mix of high ranked speakers from both industry big companies and SMEs with presentation titles that “speak the language” of industry
- The program of the second industry seminar has been elaborated by taking care of the remarks of the attendees of the First Industry Seminar gathered on the evaluation form: need to work on parallel sessions, focus on automotive, network and security issues, licensing problems, possible business models, involvement of SMEs...
- An attractive and symbolic place that is easy to reach via plane and meeting venues (The Atria Hotel and the Airbus Assembly site) that high-level industrial representatives will find appropriate
- A prestigious social Event with the visit of the Airbus A380 Final Assembly Line, one of the most important symbols of European collaboration and accomplishment
- VIPs as testimonials (in our case Jean Marc Thomas Airbus VP and Chairman of Aerospace Valley as well as the mayor of Amsterdam Pierre Cohen and the VP of the Midi Pyrénées Region Alain Beneteau)
- A mix of attendees from different countries representing big traditional HPC users, potential users, SMEs, ISV, HPC vendors, services companies and representatives of some European HPC Centers. This was done in order to increase contacts and discussions about potential technology transfer.
- Only HPC Vendors involved in PRACE prototypes were invited to attend the seminar
- Exploitation of the personal contacts of the PRACE Management Board members
- Exploitation of institutional contacts of PRACE Partners through industrial cooperation
- Exploitation of contact gathered from the First Industry Seminar
- No attendance fee was charged

Since a major goal was to foster communication between PRACE and industry and gather information about industrial needs and expectations, the programme was also designed to provide some instructiveness. This was achieved through parallel sessions and a joint dinner where the participants were seated at small round tables, mixing attendees from different industrial sectors and from PRACE.

## 5 Location of the Seminar

After a preliminary evaluation of the potential number of attendees expected, GENCI, which hosted the seminar, and GAUSS proposed the following location:

### **Hotel Mercure Toulouse Atria Compans Caffarelli**

Boulevard Lascrosses  
8 Esplanade Compans Caffarelli, 31000 Toulouse

Hotel Mercure ATRIA is a luxurious 3-star hotel and conference centre located in the heart of Toulouse overlooking the place du Capitole.

A special banner (and roll-ups) for announcing the event at the entrance of the hotel were created with the names of the sponsors of the event.



Figure 1. Photo of the Atria Hotel



Figure 2. Photo of the Auditorium during the Seminar



Figure 3. Photo of the “Salles des Colonnes” where the evening dinner took place

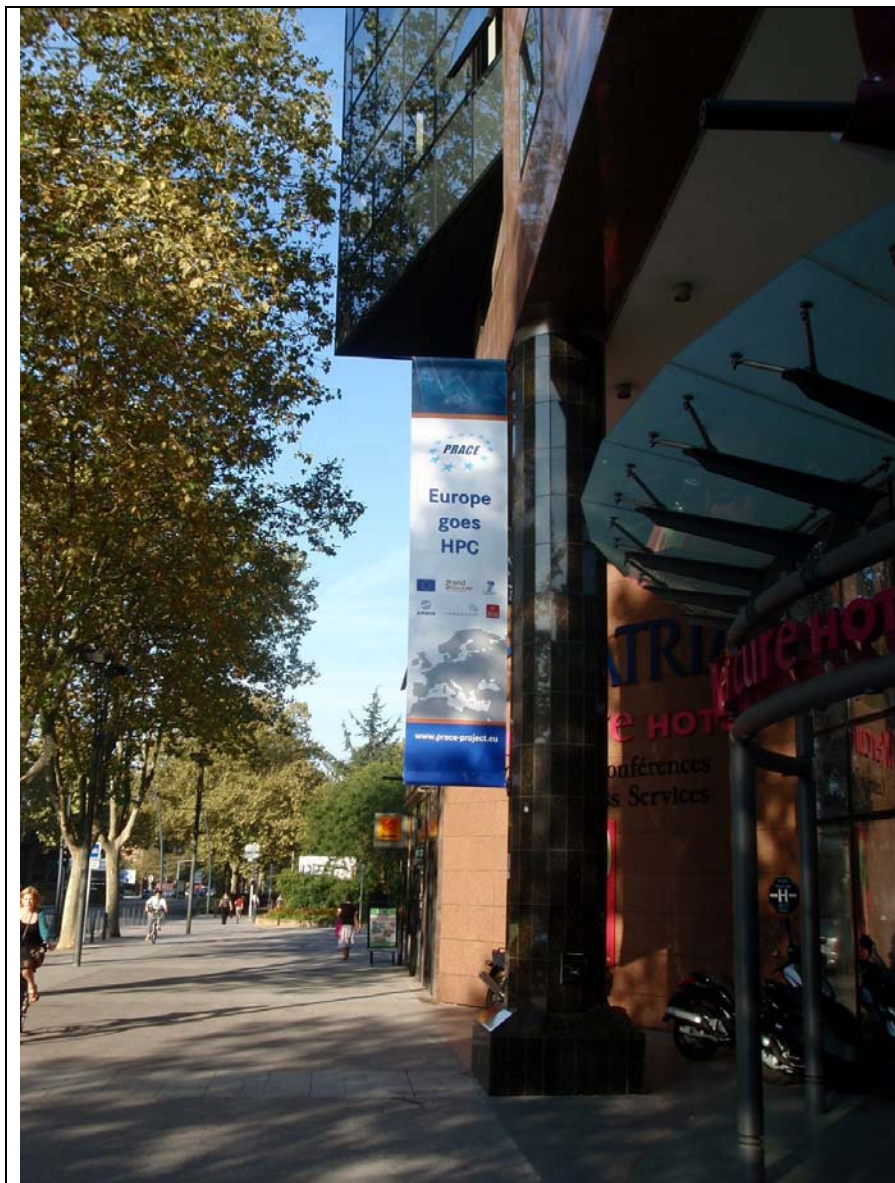


Figure 4. “Europe goes HPC” Banner (1 m x 4.5 m) and outside view of the hotel ATRIA

## 6 Website of the conference

Thanks to the help of CSC a webpage dedicated to the second industry seminar was created on the PRACE website [2].

It contains general information about the seminar but also materials like the flyer of the conference, the final version of the programme, photos taken during the seminar and finally the slides in PDF format of the talks.

A dedicated registration page was also created in order to gather attendees' data (name, date of birth, nationality, affiliation) for entering into the Airbus AeroConstellation site and also for knowing meal preferences and asking to attendees to choose one of the three parallel sessions on Monday 7<sup>th</sup>.

## 7 Flyer of the conference

In order to inform the potential attendees during the invitation phase done by the MB and the WP3 representatives a flyer was elaborated by the Organizing Committee.

It may be downloaded directly from the webpage of the seminar [2].

**What is PRACE?**  
PRACE, the Partnership for Advanced Computing in Europe<sup>1</sup>, aims at creating a sustainable, pan-European High Performance Computing (HPC) service of world-class level by the year 2010 to support competitive research and development in Europe. The mission of the permanent PRACE service is to provide European scientists and researchers with optimal resources. Europe has since many years recognized the long-term scientific and economical significance of computational research and information processing using supercomputers and has decided to give it top priority. PRACE will be organized as a single, independent European entity. Technical operation will be the responsibility of several European supercomputing centres with expertise, competency, and the required infrastructure to provide a comprehensive service to meet the challenging demands of user groups from academia and industry. PRACE will deploy in an early stage systems capable of 10<sup>17</sup> floating point operations per second (one Petaflop/s) and more. PRACE is supported by sixteen European member states; the European Commission acts as catalyst and intends to promote important scientific and industrial projects.

**PRACE**  
<sup>1</sup> The PRACE project receives funding from the European Community's Seventh Framework Programme (FP7 2007-2013) under grant agreement n° 50111528.

**PRACE Partnership for Advanced Computing in Europe**  
Industrial Competitiveness  
**Europe goes HPC**  
Invitation to the Executive Seminar on Industrial Usage of World-Class HPC Services  
September 7-8, 2009  
Toulouse, France

**Contact**  
prace-industry@t.juulich.de  
<http://www.praceproject.eu>

**Who should attend?**  
**Who should attend?**  
On September 7-8, 2009, PRACE organizes a seminar exclusively designed for CEOs, CTOs and R&D managers, responsible for research and development infrastructures in business sectors that are likely to benefit from the use of Europe's most powerful computing infrastructure ever!  
Applications in aerospace, car manufacturing, energy, chemicals, drug design and medical industry, metal industry, bioinformatics, telecommunication companies, finance and insurance and many more can benefit from the European wide new high-end research infrastructure.  
Representatives from industry engaged in research and development in Europe, from IT industries, developers of commercial software, service companies, and the European Commission are invited to share their views and explore the new available potential.

**The seminar**  
**The seminar**  
Following the success of the First industry Seminar organized in September 2008 in Amsterdam (with close to 100 attendees representing 12 European countries and 35 companies) PRACE is organizing a second seminar located in Toulouse on a two half days format.  
"The PRACE First Industry Seminar showed the need of collaboration between academia and the industry and the synergies which both may benefit from in order to give to Europe the HPC level of resources for industrial advances and R&D competitiveness in various domains. Regarding the oil and gas industry, the use of massively parallel technologies coupled with new algorithms for processing more complex seismic acquisitions is without any doubt one of the keys of success for improving the efficiency in exploration and development of new oil reservoirs", said Philippe Matrac, Vice President, Exploration & Production Information Systems of TOTAL, one of the major world oil & gas companies. During the seminar participants will receive first hand information about the planned PRACE research infrastructures, services and usage. Representatives from industry (Airbus, BfW) and also two small and medium sized european companies) will demonstrate their competitive advantage through the use of HPC. For example, computer simulations played a decisive role in the development of the Airbus A380, as they do in the automotive industry, telecommunications, drug design, and oil & gas exploration. The seminar also aims through parallel workshop sessions to gather industry requirements and expectations in terms of services, training, security, licenses costs, R&D collaborations, and technology transfer from the academic world.  
**Why should you participate?**  
The seminar presents a unique opportunity for industry to voice its specific requirements and potential obstacles in using the PRACE services at an early stage of its conception. Your input is crucial because the infrastructure is being designed now, and the first installations will be available before the end of the design phase.

**Strengthen your competitiveness**  
In many domains, industry seems rather conservative regarding usage of HPC capabilities at the highest performance level. Compared to academic usage of supercomputers, industry is more than just several years behind.  
In USA, huge efforts are undertaken to reduce this time gap and thereby strengthen the competitiveness of the US industry. PRACE will help the European industry to shorten their time-to-solution and gain or regain competitiveness with USA, Japan, India and China.

**10 simulation of the combustion inside an helicopter engine**

Figure 5. Conference flyer

## 8 Booklet of the conference

The booklet below (see Figure 6.) and the final programme were distributed to the attendees on the first day of the seminar.

regional and institutional HPC services; and provide mechanisms for seamless access of PRACE users to the Tier-0 infrastructure. This talk focuses on the PRACE middleware stack defined by WP4 and the PRACE infrastructure usage, from a HPC user perspective.

**Mark Parsons, UK**

PRACE Work Package 6 focusses on "Software for Petallop/s systems". It is the largest Work Package in PRACE in terms of effort expended. In the first part of the project it focussed on understanding the ecosystem of simulation applications used on HPC systems in Europe today. From this understanding it created a representative list of benchmark applications which, in the latter part of the project, have been ported to a wide variety of HPC systems currently operated by the partners. This talk will summarise our work to date.

**Iris Christadler, Germany**

PRACE Work Package (WP) 8 deals with "Future Petallop/s computer technologies". The objective of WP8 is to pave the way for highly energy efficient future European Multi-Peta- and Exa-Flop/s systems and supercomputing centres - taking care not to compromise programmability and scalability. WP8 contributes to this with a continuous evaluation of emerging HPC systems and technologies. The overall aim is to reinforce European's excellence in high performance computing architectures, system software and tools. This can be accomplished by focusing on the development of hardware and software components for enhanced power-efficiency and reliability in cooperation with European and international HPC industry and research labs. The topics of the presentation will be the WP8 Prototypes, the continuous technology watch and STRATOS - the PRACE advisory group for Strategic Technologies, a link between PRACE members and industrial and academic consortia.

**HPC Usage on Acoustics Modelling**

**Raphaël Pesseu, Belgium**

Free Field Technologies S.A. develops and supports the ACTRAN finite element software suite for acoustic modelling and provides a range of services in the field of acoustic design. Free Field Technologies is also involved in multiple research programs in acoustics, aero-acoustics, vibro-acoustics, HPC computing etc. In the frame of PRACE Project, Free Field Technologies presents its specific HPC requirements for acoustic modelling. Free Field Technologies illustrates the current required HPC resources in numerical acoustics through aeronautical examples as well as new expected challenges for HPC usage in acoustic modelling.

**HPC Usage on Energy Modelling**

**Christian Chauvet, France**

As part of the Scottish Enterprise supported HPC Adopter Projects initiative, EPCC and prospect are conducting a project to demonstrate the commercial advantage of using supercomputing facilities for a cutting edge real life problem which would otherwise be too computationally complex to analyse using standard computing facilities available for SME. The main objective of the project is to demonstrate that intensive parallel computing is available to Scottish companies and can help for the development of new products in a relatively short timescale and reduced costs. Accordingly Prospect has been invited to select a suitable project to demonstrate the value of supercomputing. Numerical simulation of aerodynamic behaviour of an offshore wind turbine will be undertaken. An assessment of the wind loading together with the wave loading on the structure will be performed. The simulation will be carried out on HECfor (High-End Computing terascale Resource) which the UK's national supercomputing service managed by EPCC. It is proposed to model a sea floor mounted 2-3.6 MW wind turbine using a combination of structural and fluid dynamics modelling to assess the strains on the structure when wind pressure and wave/tidal pressure are applied to the structure.



**2<sup>nd</sup> PRACE INDUSTRY SEMINAR**

**Industrial Competitiveness: Europe goes HPC**

September 7-8, 2009  
Toulouse, France  
www.prace-project.eu



**European HPC Infrastructure: a stimulus for industrial competitiveness**

**Kostas Glinos, Belgium**

The strategic interest of Member States and Research community in the construction of leading edge high-performance computing (HPC) for Europe led to investments in a new e-Infrastructure co-financed by Framework Programme 7 and research funds of different Member States: The European HPC service, PRACE, the partnership for advanced computing in Europe, is the preparatory phase project for the construction of a persistent pan-European HPC infrastructure managed as a single European entity. The presentation will present the European ambition for advances in Science and in Industrial competitiveness that go hand in hand with the investments in HPC infrastructure. It calls for concerted plans of action between academics and industrialists for effective exploitation of the computing resources and presents the Commission's current and future plans to support it.

**Aerospace Valley**

**Jean-Marc Thomas, France**

HPC is the "sesame", the key to understand the world via scientific computation. Aeronautics goes this way and its needs double each year. AIRBUS will pass from 100 TFlops (end of 2009) to 300 (current 2011). GENCI has promoted in France the means to allow collaborative work between industry and Academia, and is promoting enlargement to permit SME's to have access to it as well. Toulouse and the Aerospace Valley cluster are establishing a regional numerical platform in this spirit. PRACE is sublimating the same concept at european level.

**HPC in Finance: A field report**

**Tilman Koschnick, Switzerland**

This talk will present a case study about the successful introduction of a High Performance Computing application at a medium sized Swiss bank, the Zurich Cantonal Bank. The application was created to provide an accurate credit risk assessment facility at the portfolio level. During development and deployment, the project team had to take the distinctive banking environment with its high demands for security and customer data confidentiality into account. This led to the design of a flexible and secure cluster infrastructure, which will see the third application release in the coming months. PRACE could play an important role in the world of Finance HPC, allowing more and smaller companies to take part in and profit from the fast growing and maturing field of High Performance Computing. To do so, a number of operational as well as legal aspects such as user interfaces, data transfer and privacy need to be addressed.

**HPC in the Automotive Industry: Virtual Prototyping at BMW Group**

**F. Christel, BMW Group, Germany**

The presentation will give a brief overview of the use of Virtual Prototyping in the early phase of the development process of a BMW vehicle, where physical prototypes are not yet available. Firstly, the HPC-Cluster with its hardware and architecture and the installed applications will be described. Next, examples of several key FEM and CFD applications will be provided. One CFD application will be examined in more detail, and the calculation process and future development will be discussed. Finally, a projection of the expected required resources for future calculations will be presented.

**PRACE Information**

**Art Turunen, Finland**

PRACE Work Package (WP) 3 deals with Dissemination, Outreach and training. Over 90% of HPC users in Europe considered that there is an important need for improved HPC training programmes. WP3 will develop a training portal on the basis of user requirements. WP3 has arranged two training schools and is responsible for 7 code porting and optimization work shops. The training material is available on the Prace web site as well as all public deliverables produced by the PRACE work packages.

**Riccardo Murri, Switzerland**

PRACE Work Package (WP) 4 is the "Distributed Systems Management" activity, whose objective is to select and implement tools for consistent management of the Tier-0 systems; ensure smooth interoperation of the PRACE infrastructure with the national,

Figure 6. Booklet of the conference

## 9 Final program

The final programme (see Figure 7.) with its final design as distributed to the attendees on the first day of the seminar:

### Programme

#### Industrial Competitiveness: Europe goes HPC

#### Monday 7<sup>th</sup> September 2009 – Agenda

10:30	Walk in		
11:00	Seminar Opening		Catherine Rivière, GENCI
11:15	Toulouse's Mayor welcome		Pierre Cohen
11:30	PRACE – Europe goes HPC		Thomas Lippert, Jülich
11:45	EC talk		Konstantinos Glinos, EC – INFOS
12:00	Aerospace Valley / Aerospace Industry		Jean Marc Thomas (CEO), VP Airbus France, Aerospace Valley
12:30	Business Lunch		
13:30	Success Stories – Simulation: Quo Vadis?		
	HPC in Finance: A field report		Tilman Koschnick, (HPC leader) Zürcher Kantonalbank
	Virtual Prototyping in Automotive Industry at BMW Group		Frieder Christel, BMW Group
14:30	PRACE Information		
	Dissemination, Outreach and Training		Ari Turunen, CSC
	Distributed System Management		Riccardo Murri, CSCS
	Software enabling for Petaflop/s systems		Mark Parsons, EPCC
	Future Petaflop/s Computer Technologies beyond 2010		Iris Christadler, LRZ
	Panel Discussion		Mark Parsons, EPCC
15:30	Coffee Break		
16:00	Parallel Sessions		
	Organisation and Business Models	Network and Security	Training and User Support Relation with ISV
	Chair: Bernhard Fabianek, EC-INFOS	Chair: Michael Wilson, EGI	Chair: Gérard Lécina, Dassault-Systemes and Stéphane Requena, GENCI
17:15	HPC for Small to Medium-sized Enterprises		
	HPC Usage on Acoustics Modeling		Raphaël Pesseau (CTO), Free Field Technologies (Belgium)
	HPC Usage on Energy Modeling		Christian Chauvez (CTO), Prospect FS Ltd
18:30	Reception - Salle des Illustres		Pierre Cohen
20:00	Evening Dinner		
	Welcome		
23:00	Bus Transfer back to the Hotel		

Tuesday 8<sup>th</sup> September 2009 – Agenda

08:00	Bus Transfer to AIRBUS	
09:00	Breakfast	
09:30	Results and Lessons Learnt	
	Conclusions form Parallel Sessions	Alain Lichnewsky, GENCI Riccardo Murri, CSCS Tim Stitt, CSCS
	Wrap-Up	Francesc Subirada, BSC
10:30	Visit of Airbus A380 Final Assembly Line	
12:00	End of Seminar, Bus Transfer to Airport and Toulouse City	

**Contact**

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 Prof. Dr. Achim Bachem  
 prace-industry@fz-juelich.de

Figure 7. Final program



## 10 Materials distributed to the attendees

At the registration desk the attendees received a leaflet with a PRACE brochure, the final programme, the booklet of the conference, a brochure for visiting Toulouse and an USB Key with PRACE materials (brochure, newsletter, press releases and some public deliverables like the First Industry Seminar) and all the presentations of the speakers of the seminar.

## 11 Attendees

As the participation to the seminar was on invitation only, each member of the MB was asked (with the help of WP3 representatives and the organizing committee) to contact potential attendees and to invite them personally to attend the seminar. In the first step, the potential attendees received an invitation letter, which was sent by each national PRACE partner. After the letter was sent out, PRACE MB members and the organising committee made the follow up contacts by phone calls and personal visits.

This process led to a final participation of **103 attendees** during the two days of the seminar including:

- 18 European countries represented (out of 20 countries involved in the PRACE Initiative): Netherlands, Portugal, Sweden, France, Germany, United Kingdom, Italy, Spain, Finland, Norway, Sweden, Greece, Switzerland, Austria, Serbia, Romania, Ireland and Czech Republic
- One participant from USA (from IDC)
- One participant from Russia (from T-Platforms)
- 2 representatives from the EC (Mr B. Fabianek and Mr K. Glinos Head of Géant and e-Infrastructure Unit)
- 4 representatives from local authorities (Mayor of Toulouse, Grand Toulouse representatives and the region Midi Pyrénées Vice Président)
- 57 European companies with 15 SMEs (Small and Medium Enterprises)
- 37 representatives of PRACE and other HPC European Centres
- A wide range of industrial domains of the HET's Scientific Case covered

A complete list of attendees with their names, countries and affiliations can be found on chapter 15 (Annex 1) of this document.

11.1 Distribution of attendees per European country

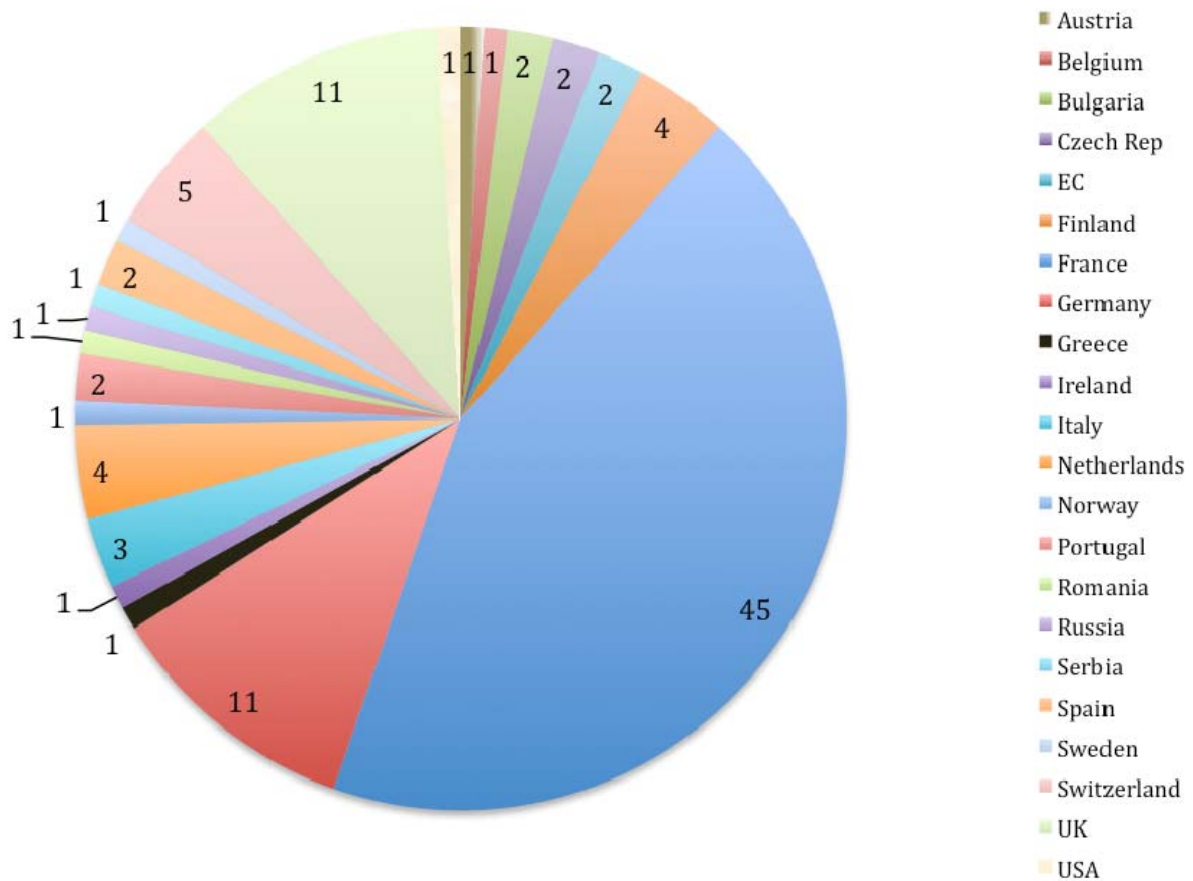


Figure 8. Distribution of attendees per country

The second industry seminar gathered attendees from 18 countries, the 13 of the First Industry seminar plus new countries which joined PRACE recently: Serbia, Romania, Bulgaria and Czech Republic.

### 11.2 Distribution of attendees per industry domain

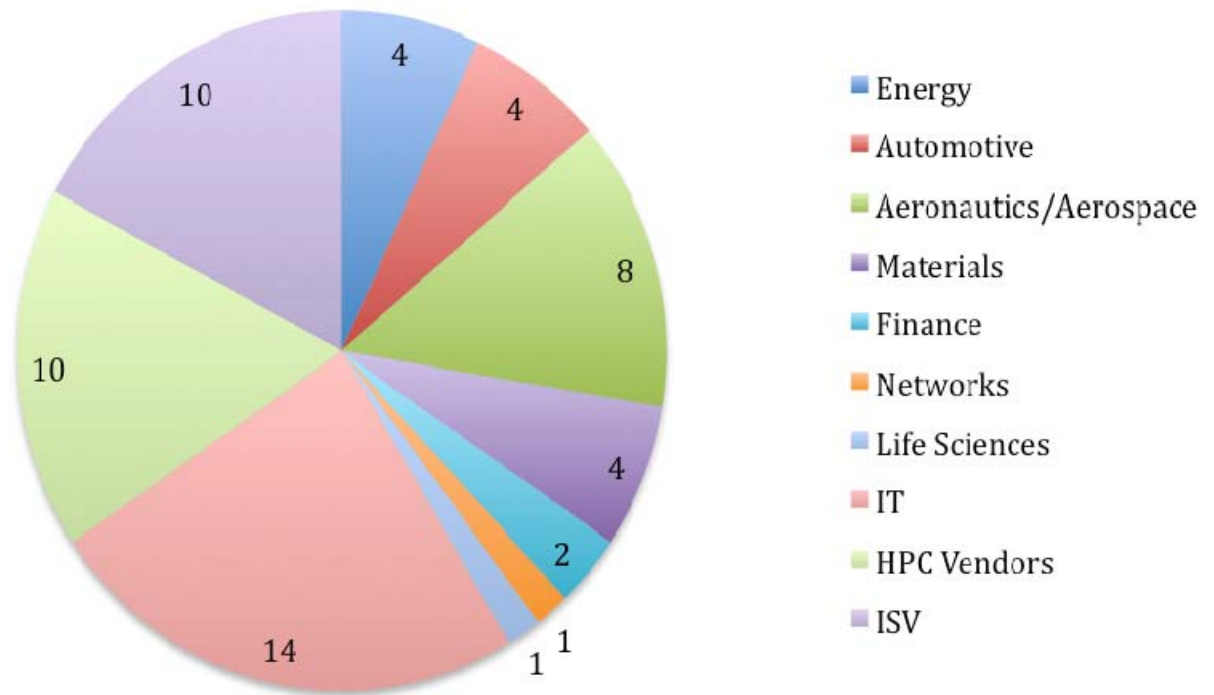


Figure 9. Distribution of attendees per industrial domain

The Energy domain was represented by the following companies:

- CEA (France), EDF (France), ENI (IT) and TOTAL (France)

The Automotive domain was represented by the following companies:

- BMW (Germany), PSA PEUGEOT CITROEN (France), RENAULT FORMULA 1 (UK) and VALEO (France)

The Aerospace domain was represented by the following companies:

- AIRBUS and AEROSPACE VALLEY (France), DASSAULT-AVIATION (France), DLR (Germany), EADS (France), ONERA (France), SNECMA (France) and TURBOMECA (France)

The Materials domain was represented by the following companies:

- ARCELOR-MITTAL (France), AIR LIQUIDE (France), HUTCHINSON (France) and RHODIA (France)

The Finance domain was represented by the following companies:

- BNP PARIBAS (France) and ZKB (Switzerland)

The Network domain was represented by the following companies:

- SKYSOFT (Portugal)

The Life Sciences domain was represented by the following companies:

- SANOFI AVENTIS (France)

The IT domain was represented by the following companies:

- CERFACS (France), CICT (France), CONCURRENT THINKING (UK), CS (France), EURODECISION (France), GNODAL (UK), HYDROCEAN (France), IDC (USA), INRIA (France), NUMTECH (France), PROSPECT-FS (UK), RISC (Austria), SERVIWARE (France) and T-SYSTEMS (Germany)

The HPC vendors were represented by the following companies:

- BULL, CRAY, IBM, INTEL, HP, NEC, PARTEC (Germany), SGI, SUN MICROSYSTEMS and T-PLATFORMS (Russia)

The ISVs domain was represented by the following companies:

- ALLINEA (UK), ANSYS (France), CAPS ENTREPRISE (France), CD-ADAPCO (UK), DISTENE (France), ENGINSOFT (France), ESI GROUP (France), FREE FIELD TECHNOLOGIES (Belgium), NAG (UK) and SAMTECH (France)

On the 57 companies the following ones were representing the SMEs (Small and Medium Enterprises) domain:

- ALLINEA , CAPS ENTREPRISE, CONCURRENT THINKING , DISTENE, ENGINSOFT, EURODECISION, FREE FIELD TECHNOLOGIES , GNODAL, HYDROCEAN, NUMTECH, NAG, PROSPECT-FS, RISC, SAMTECH and SKYSOFT

The Second Industry seminar fulfilled to gather 57 companies (35 on the First Industry seminar) in a difficult context (economic crisis with a lot of travel restrictions in the companies) by extending to SMEs (15 small and medium sized companies), ISVs (10 companies) and HPC vendors involved on PRACE prototypes.

Very important end user industrial domains as Automotive, Energy, Finance, Materials and Aerospace are highly represented and their footprint of attendance has increased during the 2 seminars.

On the 57 companies, of which 17 were attending the first industry seminar, we fulfilled to attract 40 new companies to the second industry seminar.

It is also important to add to this attendees list a list of companies contacted before the seminar which express a very high interest on PRACE and ask for being informed or contacted after the seminar like:

- In the Energy domain : BP (UK), Repsol (Spain) and PGS (Norway)
- In the Finance domain : Murex (France), Credit Suisse (Switzerland), Swiss Re (Switzerland), Santander (Spain), the Finance Innovation cluster (France) and UBS (Switzerland)
- In the Life Sciences domain : Novartis AG (Switzerland), Aureus Pharma (France), IPSEN (France) and MEDIT (France)
- In the Manufacturing domain : MICHELIN (France)
- In the ISV domain : Accelerys (UK) and Dassault Systemes (France)

## 12 Feedback of attendees

In order to evaluate the second PRACE seminar for industrial users an evaluation form was prepared and handed with the documentation to the attendees. An e-mail reminder was sent few days after the seminar to collect the filled evaluation forms. The model of the evaluation form can be found on the Annex 2 of this document.

Of 103 attendees, 33 evaluation forms were collected with 28 answers from the industry attendees and 5 answers for PRACE and EC attendees.

The evaluation form was composed by the following questions:

*Ranking Level: 1-2 for Excellent, 3-4 for Average and 5 for Poor*

Question	Results for all attendees	Result for industry attendees
Overall impression	1.25	1.22
Relevance of topics	1.68	1.70
Agenda	1.56	1.59
Quality of background documents distributed	2.11	1.80
Discussions	1.65	1.59
Speakers	1.56	1.51
Preparation & distribution of background documents	1.59	1.51
Support from organising staff	1.25	1.09
Conference facilities	1.25	1.09
Hotel choice	1.03	1.03
Social Event (Airbus A380 FAL visit)	1.03	1.06

Table 1: Evaluation form results

Attendees were also asked to answer to the following questions:

- Do you wish to receive news from the PRACE project?  
**For this question the results showed a massive YES result, which is a promising result in term of European industrial interest for PRACE.**
- During the 2 seminars do you want to be contacted for a follow up about your needs and expectations of your company on the project?  
**The important result of this question is to see that on 28 answers coming from the industry attendees only 6 refused (with 2 HPC Vendors) or were not able yet to give an answer. It illustrates now the need of a dedicated follow up after the seminar in order to discuss in depth about needs and expectations of each attendee.**

- Do you (or one of your colleagues) plan to attend to the third industry seminar in 2010?

**Again the important result of this question is to see that 26 of 28 industry attendees are interested on participating on a next industry seminar in 2010.**

## 13 Next steps

### 13.1 Follow up meetings

A series of follow up meetings with five representative companies (TOTAL and Repsol for the Energy domain, Hutchinson for the SME and material domain, IPSEN for the Pharma/life sciences domain and Dassault-Systèmes for the ISV domain) have been conducted between the two seminars in order to prepare the Second Industry seminar.

The information gathered during the first industry seminar, the intermediate follow up meetings and all the general information obtained during discussions with industry leaders on HPC events and national conferences gave us a lot of input for preparing the parallel sessions during the seminar.

As discussed during the conference and asked by a lot of attendees in the evaluation forms, one of the next steps will be to organize a dedicated follow-up with each interested attendee.

It will allow having more in depth discussions about the PRACE project and the upcoming initiatives and about the needs and expectations of the attendees in terms of business models, services, resource requirements and usage, user support and training needs.

### 13.2 Online survey

After the two seminars an online survey will be conducted among all the participants of the seminars plus all the potential contacts gathered during the invitation process.

This survey will address some important topics addressed during the three parallel sessions regarding the industrial users needs and expectations like:

- The type of access requested (research, production, both) and the frequency (permanent, on demand for peak demands, on crash recovery)
- The cost and the terms of access (peer review, cost scheme similar to the INCITE program [3], ...)
- The kind and the configuration of the hardware and software resources needed
- Commercial software issues like cost of licences, relations with ISVs
- The issues of network, security/trust, training, user support, ...

As a complement of the follow up meeting the online survey will allow to elaborate a coherent and suitable offer of future PRACE Research Infrastructure to the European industry.

## 14 Conclusions

Following the First Industry Seminar organized in 2008 in Amsterdam, the Second Industry Seminar in Toulouse was a very successful event. It was an opportunity for PRACE to exchange at the end of the project timeline with a vast attendance representing 18 European countries, 57 European companies and covering a vast panel of the HET's Scientific Case.

Discussions during the panel discussions and the parallel sessions showed for PRACE the need to propose before the end of the project an industrial offer based on a given percentage on the upcoming PRACE RI open to industrial usage.

Once this percentage known and the part of commercial usage and research activity fixed it will be possible to finalize open discussions with ISV companies in order to elaborate a suitable business model in a win/win approach with them.

This point linked to licences cost, involvement of ISV to provide with PRACE integrated services (training, support and licences) to potential users was one of the most discussed point during the seminar.

More generally the attendees highlighted an crucial need for customised HPC training organised in both live sessions and remote access thru an online training portal with "modern" tools like podcast, wikis, source code available, "Access grid" like remote viewing.

Whether their staff are trained in-house or hired directly with HPC skills, it is vitally important they remain knowledgeable of the latest advances in HPC technologies and techniques to remain competitive.

These training services may be provided by PRACE Tier-0 and national entities for the HPC themes as well as ISVs for online best practises for using efficiently their software available on PRACE facilities.

The feedback collected during discussions and from evaluation forms is very positive and now the project has to ensure follow up and regular information with the attendees in order to build an attractive HPC industrial usage model which may be operational in 2010.

## 15 Acknowledgments

The author and the Organizing Committee want again to thank for their contribution and their precious help the attendees and the speakers of the First Industry Seminar, the PRACE MB (especially Catherine Riviere and Thomas Lippert) and the WP3 members (especially to Anni Jakobsson).

PRACE is also very grateful for the sponsorship from Airbus (especially from Mr Jean Marc Thomas Vice President Airbus France), Grand Toulouse (especially from Mr Reymund) and the Région Midi Pyrénées (especially from Mr Alain Beneteau).

## 16 Annex 1 – List of attendees

The following table reflects the list of the attendees gathered on September 7-8<sup>th</sup> 2009 at the registration desk of the seminar.

The list is sorted alphabetically from the last name.

Last Name	First Name	Affiliation	Country
Aerts	Patrick	NCF	Netherlands
Ageenko Krokchina	Alla	T-Platforms	Russia
Alberto	Pedro	University of Coimbra	Portugal
André	Jean Claude	CERFACS	France
Anne	Laurent	Distene	France
Bachem	Achim	Juelich	Germany
Bassini	Sanzio	CINECA	Italy
Beal	Pierre	Numtech	France
Belic	Alexander	Institute of Physics, Belgrade	Serbia
Beneteau	Alain	Conseil Régional MP	France
Benoualid	Daniel	Hutchinson	France
Berberich	Florian	Juelich	Germany
Bernardi	Sergio	CINECA	Italy
Berthou	Jean Yves	EDF	France
Boissière	Jean Francois	Grand Toulouse	France
Canu	Vincent	ANSYS	France
Carlini	Antonio	ENI	Italy
Chauvet	Christian	Prospect FS	UK



Last Name	First Name	Affiliation	Country
Christalder	Iris	LRZ	Germany
Christel	Frieder	BMW Group	Germany
Coron	Francois	EADS	France
Cotelle	Thierry	Grand Toulouse	France
Courteille	Francois	NEC HPCE	France
De Pommery	Etienne	ESI Group	France
De Ponteves	Pierre	Serviware	France
Desplat	Jean-Christophe	ICHEC	Ireland
Dewar	Mike	NAG	UK
Dias	Ana Bela	NCF	Netherlands
Dinh	Quang Vinh	Dassault Aviation	France
Douglas	Susie	EPSRC	UK
Duda	Martin	VSB-TU Ostrava	Czech Republic
Duysens	Jacques	Communication & Systems	France
Eickermann	Thomas	Juelich	Germany
Fabianek	Bernhard	European Commission	Austria (EC)
Falter	Hugo	ParTec	Germany
Gauthier	Luc	Sanofi Aventis	France
Gazaix	Michel	ONERA	France
Gilly	Ladina	CSCS	Switzerland
Glinos	Kostas	European Commission	Belgium (EC)
Gonnord	Jean	CEA	France
Green	Ian	IBM	UK

Last Name	First Name	Affiliation	Country
Hackland	Graeme	Renault F1	UK
Halbronn	Didier	CD-ADAPCO	UK
Hatch	Matt	GNODAL	UK
Heikonen	Jussi	CSC	Finland
Ignatius	Janne	CSC	Finland
Jacquet-Lagreze	Eric	Eurodecision	France
Jacquin	Erwin	HydrOcean	France
Johnsson	Lennart	KTH	Sweden
Kanellopoulos	Christos	GRNET	Greece
Koschnick	Tilman	subnetz computing ZKB	Switzerland
Koster	Jacko	UNINETT Sigma	Norway
Krieger	Michael	RISC Software	Austria
Kroll	Norbert	DLR	Germany
Lacharte	Jean Yves	Hutchinson	France
Lanusse	Jocelyn	EnginSoft	France
Lecarpentier	Damien	CSC	France
Lichnewsky	Alain	GENCI	France
Lippert	Thomas	Juelich	Germany
Mahdi	Virginie	GENCI	France
Marie Martin	Gérard	VALEO	France
Markov	Stoyan	Bulgarian Centre for Supercomputing Applications	Bulgaria
Mascomere	Jean Patrick	TOTAL	France

Last Name	First Name	Affiliation	Country
Mathis	Gaël	Arcelor Mittal	France
McGuire	Sean	Intel	UK
Ménaché	Christine	CCRT/CEA	France
Merida	Carlos	BSC	Spain
Michielse	Peter	NCF	Netherlands
Miltin	Philippe	Bull	France
Morere	Marc	Airbus	France
Moussion	Jean Claude	Turbomeca	France
Murri	Riccardo	CSCS	Switzerland
Neiva	Paulo	Skysoft	Portugal
Nicholson	Jane	EPSRC	UK
Nominé	Jean Philippe	CEA	France
Osseyran	Anwar	SARA	Netherlands
Parsons	Mark	EPCC	UK
Pesseau	Raphael	Free Field Technologies	Belgium
Philouze	Jacques	Allinea Software	France
Prangov	Georgi	Bulgarian Agency for IT and Communications	Bulgaria
Prigent	Christophe	PSA Peugeot Citroen	France
Puzenat	Christophe	Rhodia	France
Rabier	Pascal	Sun Microsystems	France
Requena	Stéphane	GENCI	France
Reymund	Pierre Emmanuel	Grand Toulouse	France

Last Name	First Name	Affiliation	Country
Riviere	Caterine	GENCI	France
Ruijgrok	Joop	SGI	Netherlands
Schärli	Franziska	CSCS	Switzerland
Schmitt	Thierry	SNECMA	France
Schwemmer	Katharina	Juelich	Germany
Scoutheeten	Geoffrey	BNP Paribas	France
Severin	Frank	ParTec	Germany
Silvain	Jean Pierre	CICT	France
Simmendinger	Christian	T-Systems	Germany
Sosonkina	Masha	SAMTECH	France
Soumet	Michel	HP	France
Sportisse	Bruno	INRIA	France
Stitt	Tim	CSCS	Switzerland
Stursa	Jiri	VSB-TU Ostrava	Czech Republic
Subirada	Francesc	BSC	Spain
Talbot	Jean-Marc	CAPS Entreprise	France
Taylor	John	Concurrent Thinking	UK
Thiel	Ulla	CRAY	Germany
Thomas	Jean Marc	Airbus	France
Till	Marc	Air Liquide	France
Turunen	Ari	CSC	Finland
Wu	Jie	IDC	USA
Pierre	Cohen	Mayor of Toulouse	France

Table 2: List of attendees

## 17 Annex 2 – Evaluation Form

In order to gather the feedback of the attendees an evaluation form has been distributed to the attendees just before the evening dinner.

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Dear Participant,

Thank you for attending the PRACE 2<sup>nd</sup> Industry Seminar in Toulouse, we hope you enjoyed this event. Please take a few moments to complete this short questionnaire.

### EVALUATION FORM

Name: \_\_\_\_\_ e-mail: \_\_\_\_\_

Institution / dept.: \_\_\_\_\_

Do you wish to receive news from the PRACE project: \_\_\_\_\_ YES NO

#### I. OVERALL IMPRESSION

What is your overall impression of the event?

Very productive	1	Productive	2	Not productive	3
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#### II. RELEVANCE, AGENDA AND DISCUSSIONS

Please rate the following elements.

	Excellent		Average		Poor
1) Relevance of topics discussed	1	2	3	4	5
2) Agenda (adhered to, allocation of time per topic)	1	2	3	4	5
3) Quality of background documents distributed	1	2	3	4	5
4) Discussions	1	2	3	4	5
5) Speakers	1	2	3	4	5

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### III. ORGANISATION

Please rate the following elements where applicable.

	Excellent		Average		Poor
6) Preparation and distribution of background documents	1	2	3	4	5
7) Support from organising staff	1	2	3	4	5
8) Conference facilities	1	2	3	4	5
9) Hotel (choice, convenience for meeting)	1	2	3	4	5
10) Evening dinner, coffee, etc	1	2	3	4	5
11) Social Event (Airbus A380 FAL visit)	1	2	3	4	5

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

IV. FOLLOW UP WITH PRACE

After this seminar do you want to be contacted for a follow up about your needs and expectations of your company on the project?

Yes	No
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Would you like to attend again to a Third Industry Seminar in 2010?

Yes	No
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