

# **LUG2013**

## **EOFS Update**

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San Diego,  
April 2013

- EOFS activities
- Participation in projects
  - Politically driven
  - ELOW activities in national funded projects
  - National and EU funded projects

# The Lustre Open Source Community

## Activities in 2012

- **I/O Workshop 2012 in Garching**  
Organized by Peter Braam
- **LUG 2012 in Austin**
- **ISC 2012 in Hamburg**  
Joint Booth, BoF('s)
- **Whamcloud Lustre Training in Barcelona**
- **LAD'12, Lustre Workshop 2012 in Paris**  
Two day's session
- **SC 2012 in Salt Lake City**

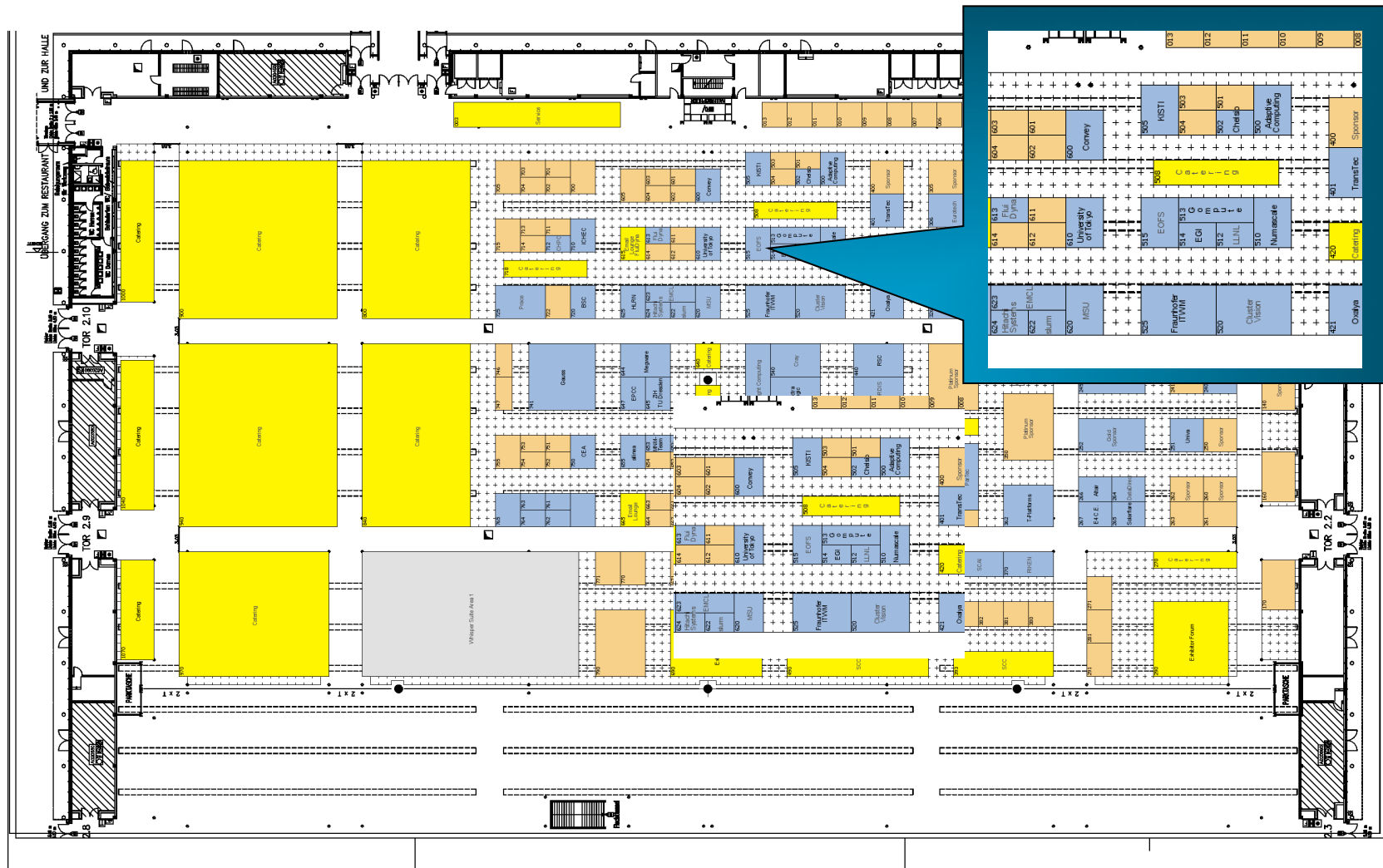
## Activities in 2013

- **LUG 2013 in San Diego**
- **ISC 2013 in Leipzig**  
Joint Booth, BoF('s)
- **LAD'13, Lustre Workshop 2013 in Paris**  
Two day's session
- **3rd Lustre Developers Summit in Paris**
- **SC 2013 in Denver**

## 2012 EU Events

- LAD'12
  - Over 90 attendees
- 2nd Lustre Developers Summit
  - 26 attendees from 10 companies
  - Very good/technical discussions
- ISC12
  - Breakfast panel was successful (120+ attendees)
  - Booth: Many visits but expensive
  - Lustre BOF: many attendees (Room was full)

- Breakfast panel booked
  - Big Data in High Performance Computing Centers?
  - *Panelist: DDN, XRTX, Intel, someone from hadoop?*
- Booth booked (# 515)
  - Lustre BOF on June 18th from 15:00 till 17:00
- Global budget should be less than 2012



## LAD'13: Save the date!

### LUSTRE ADMINISTRATOR & DEVELOPPERS WORKSHOP 2013

Like in 2011 and 2012, Paris will be the place of 2-day event dedicated to Lustre administration and developments

- 16-17 September 2013
- At Hôtel Lutetia, Paris



## LAD'13: Save the date!

- Talks are welcomed!
- Registration to be opened soon
- All information on:  
<http://www.eofs.org/?id=lad13>



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## 3rd Lustre Developers Summit

- LAD'13 will be followed by a 1-day summit.
  - September, 18th
  - 20-30 Lustre developers
  - Hotel Lutetia, Paris



## Participation in politically driven projects

- ETP4HPC <http://www.etp4hpc.eu/>

➤ An ETP is an industry-led forum

Medium to long-term research and technological objectives and developing roadmaps to achieve them.

*Increasing synergies between different research actors, ultimately enhancing European competitiveness*

The European Commission is committed to its structured dialogue on research policy and priorities with European technology platforms

## How is ETP4HPC organized?

- Incorporated as a Dutch association
- Open membership for organizations having R&D based in Europe
- Managed by a Steering Board with 15 members representing:
  - Research centres (5)
  - European SMEs (3)
  - European controlled corporations (5)
  - International companies with R&D in Europe (2)
- Steering board organisation
  - Chairman
  - 2 Vice-chairmen for PRACE coordination and HPC development
  - Secretary-Administrator, Treasurer
- Virtual office
  - BSC, CEA, Cineca+Eurotech, ParTec

## Founders: Key Players of HPC Technology Research in Europe

**ARM**

**allinea**

**BSC** *Barcelona Supercomputing Center*  
Centro Nacional de Supercomputación

**BULL**

**CAPS**

DE LA RECHERCHE À L'INDUSTRIE  
**cea**

**CINECA**

**EUROTECH**  
Imagine. Build. Succeed.

**Fraunhofer**

**IBM**

**intel**

**JÜLICH**  
FORSCHUNGSZENTRUM

**LRZ**

**PARTEC** *CLUSTER COMPETENCE CENTER*

**ST**  
life.augmented

**xyratex**

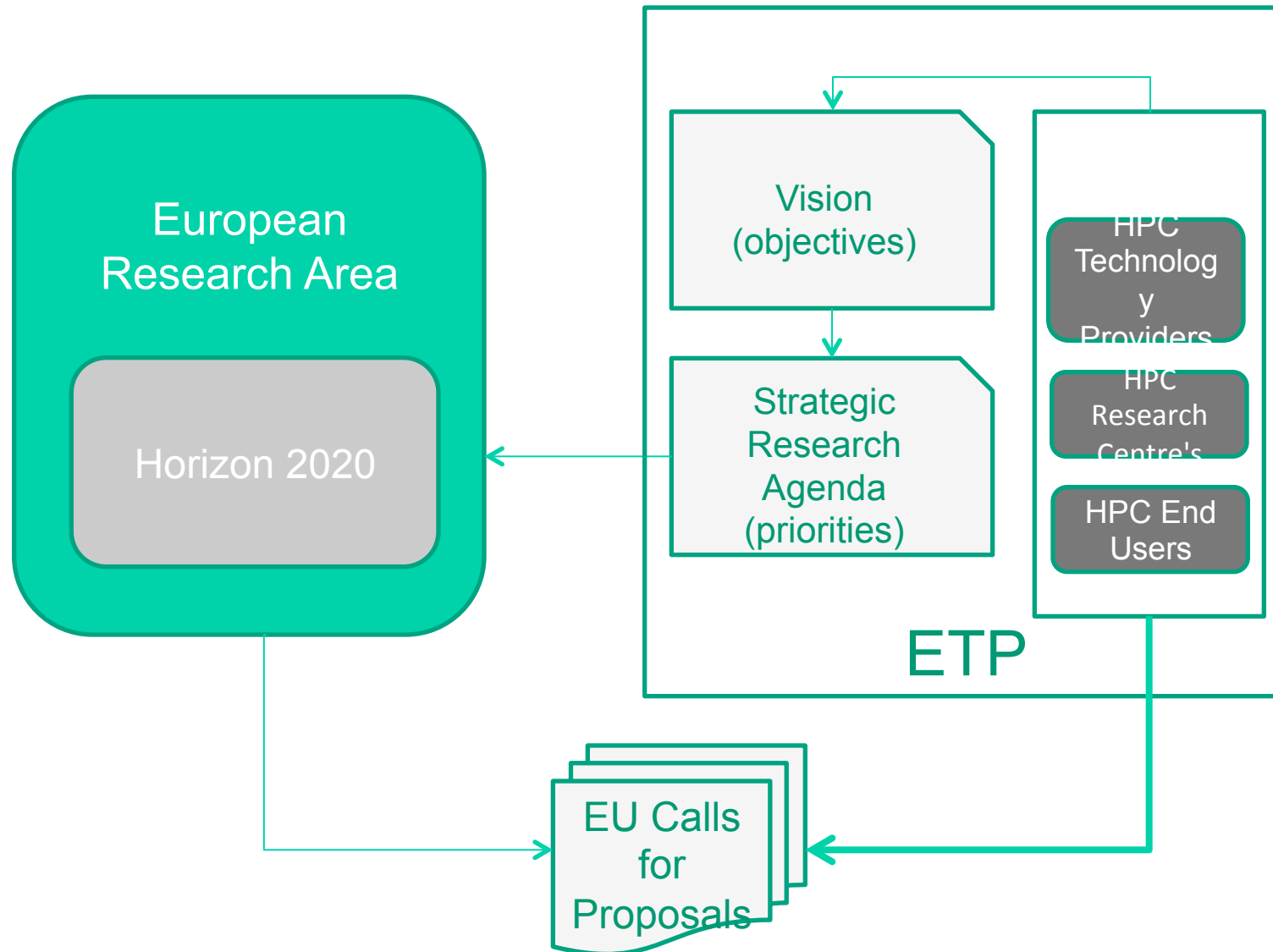
## ETP4HPC – New members



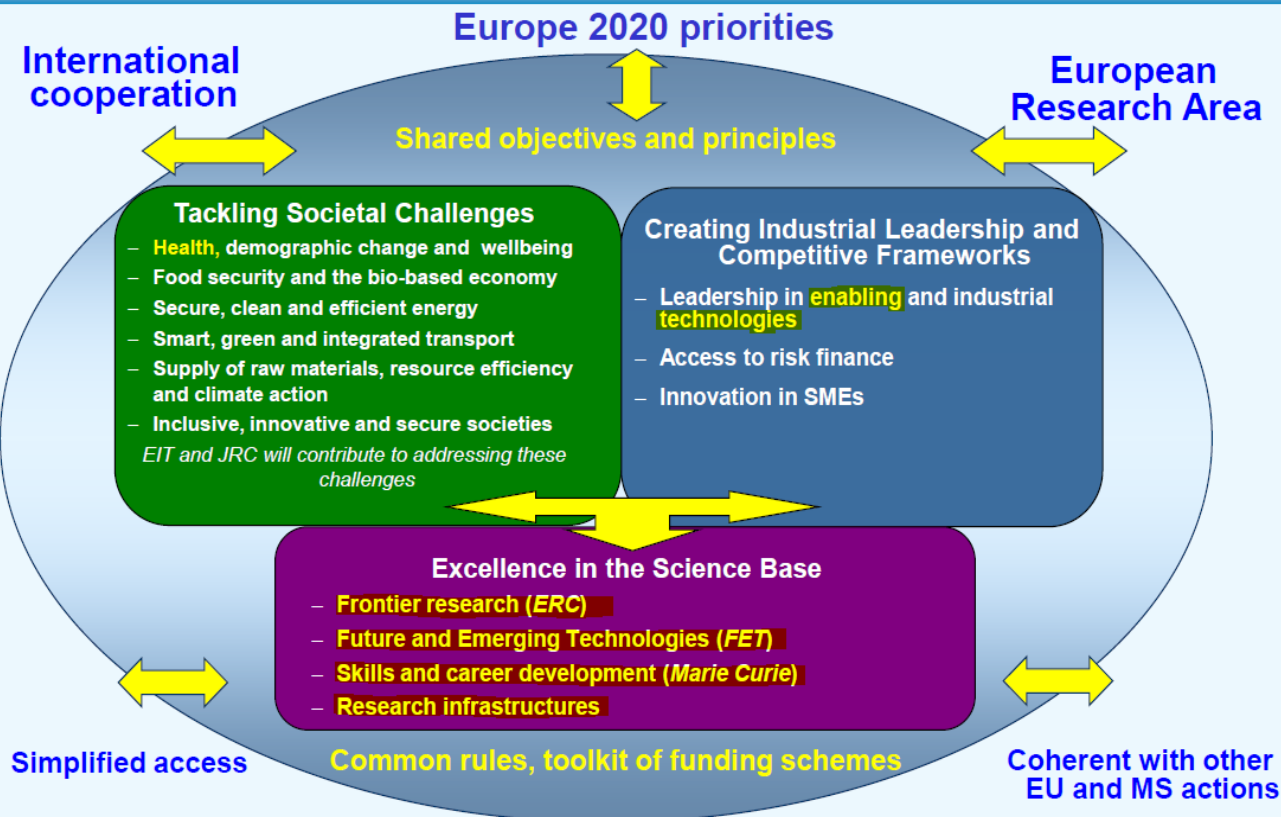
## Who should participate in ET4HPC ?

- European HPC technology ecosystem:
  - Technology providers
  - ISVs facing the multi-core/new architectures disruption
  - Users looking for advanced technological HPC systems
  - Research centers involved in HPC research
  - Computing centers working on HPC technology or innovative
  - HPC system operation
- Two possibilities
  - Full member : organizations with HPC research in Europe
  - Associate member: individuals or organizations not qualified for full membership

# Strategic Research Agenda



## Horizon 2020 – Objectives and structure





## What are the main topics covered ?

- System and Component Architecture
- System Software
- Programming Environment
- HPC Usage Models
  
- Energy driven HPC
- Extreme parallelism
- Resiliency
- Compute, I/O and Storage Balance
- Big Data – Supporting New Workloads
- New HPC Delivery (e.g. Cloud)

## What are the relationships with PRACE ?

- PRACE sets up a High-end Computing (HeC) infrastructure in Europe
- ETP4HPC defines and keeps updated a Strategic Research Agenda (SRA) aiming to identify research priorities for the development of HPC technologies
- Both organisations (ETP4HPC and PRACE) are part of the European HPC Governance and have complementary stakeholders
- ETP4HPC and PRACE both will establish coordination cross links between their organisations

## Why become a member of ETP4HPC ?

- To participate in the definition of the R&D HPC strategy
- To share your ideas about the evolution of HPC technology
- To influence the definition of the SRA
- To pool your resources with other HPC stakeholders
- To anticipate evolutions related to your activity
- To increase the visibility and the voice of your organization

## Participation in politically driven projects

- **PROSPECT e.V. [www.prospect-hpc.eu/](http://www.prospect-hpc.eu/)**
  - "Promotion of Supercomputing Partnerships for European Competitiveness and Technology"
- European Supercomputing Centers as initial members
  - Forschungszentrum Juelich
  - Barcelona Supercomputing Center
  - Leibniz Supercomputing Center
  - A few university chairs, and several companies offering hardware or software for High Performance Computing.
- Currently 39 members

- Incorporated as an e.V. (e.V. is German for "registered association")
- Association has been founded on December, 15th 2008 in Garching, Germany.
- The purpose of the association is **the furtherance of science and research in the field of supercomputing and technologies associated therewith.**

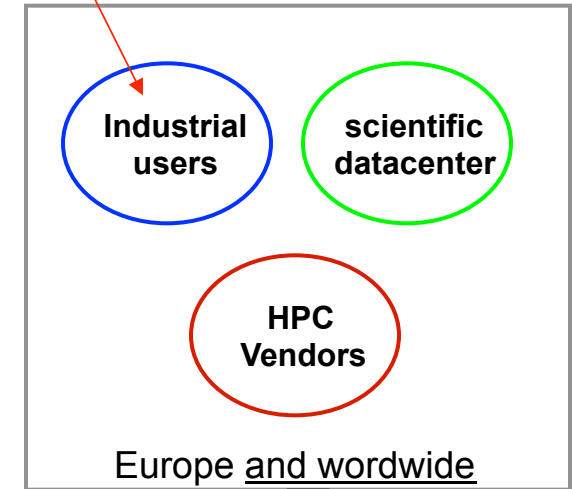
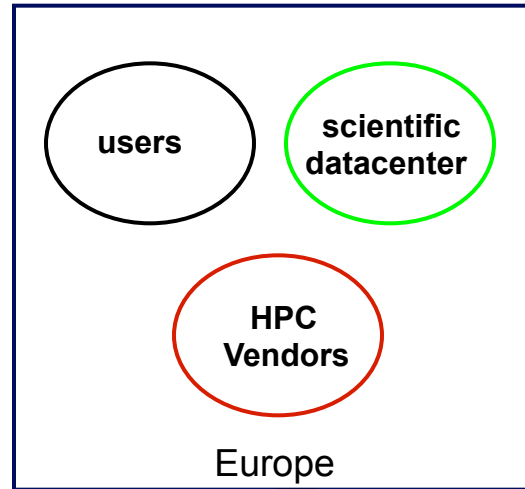
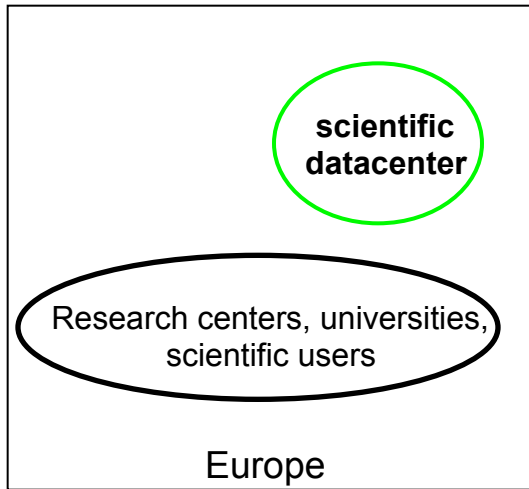
The association will realize its purpose in particular by holding scientific presentations and supporting research projects. Its aim is to foster the creation of a European Technology Platform (ETP) for HPC.



# Positioning PROSPECT vs. ETP4HPC and PRACE



Focus !



Deliverables:

Scientific Research Agenda (SRA)

produces

dialogue

European Commission

calls, research programs

Deliverables:

- Techn. req. from EU industry to HPC vendors
- Req. from EU industry re HPC skill buildup
- Reg. updates from EC, PRACE, ETP4HPC, EESI, vendors.
- Reg. dialogue on experiences, best practices
- feedback & position relative to SRA

produces

informs & updates

## Statement:

The EOFS board welcomes and supports the Exascale I/O interfaces workgroup and will adopt it as an EOFS initiative.

The EOFS board invites OpenSFS to join this initiative and make it a joint EOFS/OpenSFS project.



- ***FAST (decision pending)***
  - Find a Suitable Topology for Exascale Applications –  
Dynamische Topologien in höchstskalierenden  
Umgebungen
  - Coordinated by André Brinkmann,  
Johannes Gutenberg-Universität Mainz
  - 7 partners
- ***ITEA 2: POINT2BDMC (decision pending)***
  - Hierarchical Storage for HPC
  - Coordinated by Denis Foueillassar, Bull S.A.S.
  - 12 partners



## Participation in EU funded projects

- **DEEP** [www.deep-project.eu/](http://www.deep-project.eu/)
  - Dynamical Exascale Entry Platform
  - One of the three Exascale projects funded by the EU 7th framework programme
  - Coordinated by Forschungszentrum Juelich
  - Duration 36 months
  - Funding from the European Commission 8.03 Mio €
  - 16 partners



The DEEP consortium will develop a novel, Exascale-enabling supercomputing architecture with a matching SW stack and a set of optimized grand-challenge simulation applications.

## Participation in EU funded projects

- ***DEEP-ER (decision pending)***
  - DEEP – Extended Reach
  - Coordinated by Forschungszentrum Juelich
  - 14 partners

# Questions?