



# TIARA-WP2



TIARA website: <http://www.eu-tiara.eu>

Mid-Term meeting

R. Aleksan

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WP2 work space: <https://espace.cern.ch/tiara-intranet/WP2>

A large, stylized graphic of the Tiara logo. It features a glowing blue globe with a purple ring around it, set against a dark background with a starry space pattern. The word "Tiara" is written in a large, blue, 3D-style font across the bottom of the graphic.

# Tiara

1. Task & Meetings
2. Status of deliverables/milestones
3. Status of Activities
4. Next steps



# WP2 Objectives



## Main tasks

### ❖ Define the Governance of TIARA

Actual work concentrating on

- Statutes
- Management structure
  - Advisory mechanisms & bodies
  - Collaboration with other bodies
  - Financial Management aspects
  - Organization of CD&O

**Subgroups  
Set up**

**Interim report available**

## Meetings

- ❖ February 23<sup>rd</sup>, 2011
- ❖ April 4<sup>th</sup>, 2011
- ❖ May 24<sup>th</sup>, 2011
- ❖ October 17<sup>th</sup>, 2011
- ❖ March 2<sup>nd</sup>, 2012
- ❖ June 12-13<sup>th</sup>

+ subgroup meetings  
(see later)

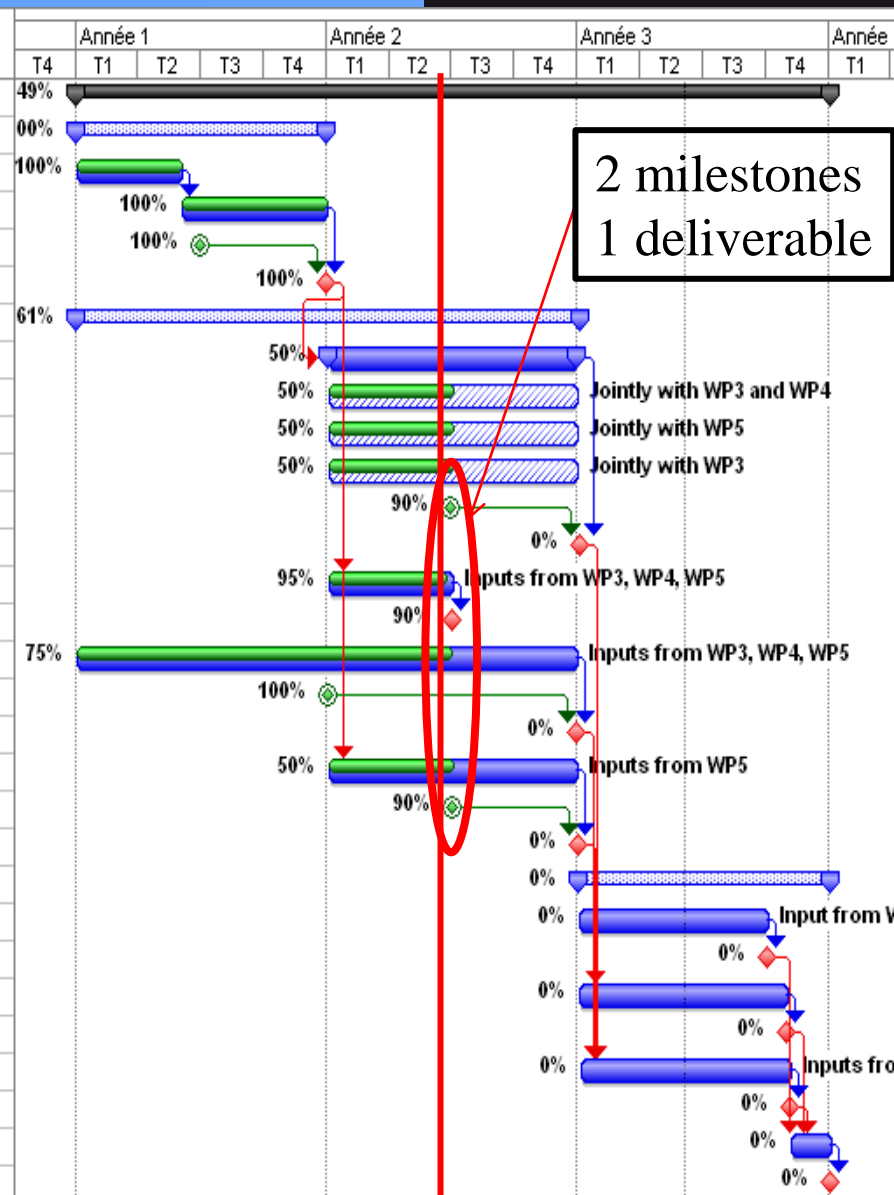
All documents are on WP2 work space



# Deliverables/Milestones



N°	WBS	Task Name
1	2	<b>WP2 Governance</b>
2	2.1	<b>2.1 TGI: Agreement on TIARA General Issues</b>
3	2.1.1	2.1.1 AMS: Agreement on the Mission and Scope
4	2.1.2	2.1.2 ACG: Agreement on Central Coordination Guideline
5	M2.1	M2.1 I-GI: Interim report on General Issues
6	D2.1	<b>D2.1 MoA-GI: Memorandum of Agreement on General Issues</b>
7	2.2	<b>2.2 SFII: Structural and Financial Needs</b>
8	2.2.1	2.2.1 AMO: Advising Mechanism and Organization
9	2.2.1.1	2.2.1.1 STA: Scientific and Technical Advising Mechanism and Organization
10	2.2.1.2	2.2.1.2 ETA: Education and Training Advising Mechanism and Organization
11	2.2.1.3	2.2.1.3 IIA: Industrial Issue Advising Mechanism and Organization
12	M2.2	M2.2 I-AMO: Interim Report on Advisory Mechanism and Organization
13	D2.2	<b>D2.2 AMO: Report on Advisory Mechanisms and Organization</b>
14	2.2.2	2.2.2 IBC: Identification of Bodies with which Collaboration is needed
15	D2.3	<b>D2.3 COB: Report on Collaboration with Other Bodies</b>
16	2.2.3	2.2.3 CDO: Communication, Dissemination and Outreach Structure
17	M2.3	M2.3 I-CDO: Interim Report on Communication, Dissemination and Outreach
18	D2.4	<b>D2.4 CDO: Report on Communication, Dissemination and Outreach Structure</b>
19	2.2.4	2.2.4 FMN: Financial Management Needs
20	M2.4	M2.4 I-FMN: Interim Report on Financial Management Needs
21	D2.5	<b>D2.5 FMI: Report on Financial Management Needs</b>
22	2.3	<b>2.3 TTI: Toward TIARA Implementation</b>
23	2.3.1	2.3.1 ITI: Agreement on Initial TIARA Infrastructures
24	D2.6	<b>D2.6 MoA-ITI: Memorandum of Agreement on Initial TIARA Infrastructures</b>
25	2.3.2	2.3.2 FME: Financial Management Model and Engineering
26	D2.7	<b>D2.7 MoU-FIE: MoU on Financial Management Model and Engineering</b>
27	2.3.3	2.3.3 OLS: Overall Legal Structure
28	D2.8	<b>D2.8 MoU-LID: MoU on the overall TIARA Legal Structure</b>
29	2.3.4	2.3.4 TMAW: TIARA Final Memorandum of Agreement writeup
30	D2.9	<b>D2.10 F-MoA: Final overall Memorandum of Agreement</b>





# Deliverables/Milestones



## ➤ Deliverables

Num	Nat[1]	Short name	Description	month	Dissemination level
D2.1	O ✓	MoA-GI	Guidelines on General Issues for establishing TIARA	12	CO
D2.2	R	AMO	Report on Advisory Mechanisms and Organization	24	CO
D2.3	R ✓	COB	Report on Collaboration with Other Bodies	18	CO
D2.4	R	CDO	Report on Communication, Dissemination and Outreach Structure	24	CO
D2.5	R	FMN	Report on Financial Management Needs	24	CO
D2.6	O	MoA-ITI	Memorandum of Agreement on Initial TIARA Infrastructures	33	CO
D2.7	R	MoU-FIE	MoU on Financial Model and Engineering	34	CO
D2.8	R	MoU-LID	MoU on Legal Issues and Documents	34	CO
D2.9	O	F-MoA	Final Memorandum of Agreement	36	CO

## ➤ Milestones

Num	Num Annex1	Nat	Short name	Description	month	Dissemination level
M2.1	MS4	R ✓	I-GI	Interim Report on General Issues	6	CO
M2.2	MS5	R ✓	I-AMO	Interim report of Advisory Mechanisms and Organization	18	CO
M2.3	MS6	R ✓	I-CDO	Interim Report on Communication, Dissemination and Outreach	12	CO
M2.4	MS7	R ✓	I-FMN	Interim Report on Financial Management Needs	18	CO



on-going (close to completion)



# Toward final MoA



## *On going discussions on Governance Model for TIARA*

After discussion at the GC meeting in Uppsala, 2 models being studied

- Consortium type Model
    - Ex: EGO in Italy, IRAM in France
      - legal people of CNRS have presented two such possibilities
        - Association
        - Public company
      - Both could satisfy our purpose
      - Rely on National law but exist in some way in each country
      - Association is however the simplest model for a legal entity
  - CERN convention
    - Meeting with CERN management and legal people on March 2
    - Main advantages
      - Legal entity already exists
      - It is international
      - VAT exemption
- However not clear whether enters within convention scope





# Subgroups



## *3 Working Groups have been set up*

- *topics being discussed:*

1. *Advising Mechanism and Organization*  
*(T. Ekelof, P. Malecki + WP3,4,5 WPL)*

- *1<sup>st</sup> Meeting February 29<sup>th</sup>*

- *2<sup>nd</sup> Meeting June 8<sup>th</sup>*

2. *Identification of Bodies with which to collaborate*

*R. Aleksan, A. Müller, J. Perez, K. Wurr*

- *1<sup>st</sup> meeting on January 30<sup>th</sup>*

- *2<sup>nd</sup> meeting on April 16<sup>th</sup>*

- *3<sup>rd</sup> meeting on June 5<sup>th</sup>*

3. *Financial management needs*

*R. Aleksan, H. Eickoff, J. Hiscock, T. Medland, L.*

*Rivkin*

- *1<sup>st</sup> Meeting: January 10<sup>th</sup>*

- *2<sup>nd</sup> Meeting: March 1<sup>st</sup>*



# Subgroups



## First thoughts concerning advisory mechanisms and organization

- *on Scientific and Technical issues*
- *on Educational and Training issues*
- *on Industrial issues*

**Following is still preliminary**



# Subgroups

advisory mechanisms and organization



On which kind of issues will TIARA need to get external advice?

- *Strategy*
- *Evaluation of achieved goals*
- *Reference with the community*

Shall there be one or several advisory committees in TIARA?  
If several, how divide the different kinds of advice to be given  
between the different committees?

- *One committee for advice on all issues  
but industrial ones*
- *No clear and unique solution for  
industrial issues (still investigating)*





# Subgroups

advisory mechanisms and organization



Should there be members on the advisory committee(s) which represent links to other organizations interested in accelerator

- *Members appointed ad personam without formal responsibilities to report to any other body*
- *useful that some of the members be appointed in consultation with various bodies representing different accelerator development and accelerator users organizations*



# Subgroups

advisory mechanisms and organization



Should the committee(s) be active or reactive?

- *It should be normally reactive*
- *but it should alert TIARA on specific issues that the committee feels should be addressed*

How many members should there be on the advisory committee(s)?

- *The committee should have about 12 members in order to be able cover all three aspects of strategy, evaluation and reference*



# Subgroups



## Collaboration with other Bodies

Two steps process has been initiated

1. Identify entry points representing an entire community
  - Preferably a single point whenever possible
  - Else sollicitate advice from key people
2. Establish contacts

### Identification of the communities

- Particle Physics
- Nuclear Physics
- Light Sources
- Neutron Sources
- Energy (Fusion, ADS)
- Medical Applications

In addition and more generally other contacts would be useful

- ESFRI
- Industry



# Subgroups

## Collaboration with other Bodies



Field/ community	Identified body	Main contact person	Status of contact
<b>Particle Physics</b>	<a href="#"><u>ECFA</u></a>	Manfred Krammer (HEPHY), ECFA chair	<b>Contact established</b> Presentation of TIARA at the RECFA meeting in 6 October 2012
<b>Nuclear physics</b>	<a href="#"><u>NuPECC</u></a>	Angela Bracco (INFN Milano): NuPECC chair	<b>Contact established</b> Presentation of TIARA at the NuPECC meeting in Copenhagen 16 June 2012
<b>Light sources (3<sup>rd</sup>, 4<sup>th</sup> generation)</b>	<a href="#"><u>EFELC</u></a>	Josef Feldhaus (DESY)	<b>Contact started</b> (see recommendations)
	<a href="#"><u>XFEL</u></a>	Andreas Schwarz : Technical Director	<b>Contact started</b> <b>Remark: Contact included in EFELC.</b>
	<a href="#"><u>ESRF</u></a>	Pantaleo Raimondi, Director Accelerator and Source Division ESRF	<b>Contact established</b> Meeting with ESRF management on 14 February 2012 (see recommendations)
<b>Neutron sources</b>	<a href="#"><u>ESS</u></a>	-Mats Lindroos, head of the ESS Accelerator Division  -Patrik Carlsson, director of ESS Accelerator & Target	<b>Contact established</b> Presentation of P. Carlsson at the mid-term meeting in Madrid (June 12-14)
<b>Medical applications</b>	<a href="#"><u>ENLIGHT</u></a>	Manjit Dosanjh (CERN): ENLIGHT Executive Committee and SC chairwoman	<b>Contact started</b> (see also recommendations)
	<a href="#"><u>PTCOG</u></a>	Alejandro Mazal, chair (until 1/05/12)	<b>Contact established</b>
<b>ADSR</b>	<a href="#"><u>MYRRHA</u></a>	Alex C. Mueller, chairman of the WAC subgroup on accelerators for MYRRHA, (SCK-CEN)	<b>Contact established</b>
<b>Fusion energy</b>	<a href="#"><u>F4E, (IFMIF)</u></a>	Roland Heidinger (KIT) EU Technical Coordinator for IFMIF/EVEDA	<b>Contact established</b> (further meeting with machine specialist Alban Mosnier planned)
<b>Industry</b>		No identified body	(see recommendations)



# Subgroups

## Collaboration with other Bodies



### Industry

#### Three main goals were established:

- ✓ Presenting TIARA to interested companies by mean of dedicated workshops or forums.
- ✓ Collecting (at these occasions) their view on the benefit of a potential collaboration with TIARA: what would they expect from this collaboration, would they be interested to use the “TIARA platform” e.g. as associated members;
- ✓ Exchanging between young academia and industry (job opportunities, industry requirements for academic education) e.g. during regular TIARA joint academia & industry workshops

### Others

**It was assessed that the ESFRI is an appropriate body to interact with for general matters related to the implementation and development of TIARA.**





# Subgroup Financial Management Needs



## Task definition in DoW

- Step 1** { This subtask will define the needs in term of financial management. A first step will be the agreement on the **type of actions** that the TIARA consortium aims at partly or fully financing directly and the ones that can be carried out through other mechanisms. One will then investigate what
- Step 2** { **types of financial operations** are necessary in order to finance the TIARA coordination structure and the actions it will promote, initiate and support.
- Step 3** { This will be translated in administrative requirements. The outcome of this work will be an **important ingredient** in order to define the financial management model and the required administrative nature of the TIARA management structure.



**Not cost evaluation, but identification of what activities supported by TIARA should be financed and what type of operation are needed.**



# **Subgroup Financial Management Needs**



Type of actions supported financially (fully or in part) by TIARA (depending of funding available)

1. Collaborative Accelerator related R&D projects
2. CD&O activities
3. Education and training activities (including inputs from WP5)
4. Administrative, Financial and Legal issues for budgeting and control of the projects, supported by TIARA



# TIARA-Outlooks



The work in TIARA is progressing well, in a timely fashion

A lot has been done on

- Organizational tasks
- Technical tasks
- CD&O issues



Out of 16 deliverables due end June  
12 are available  
+4 almost ready

21 documents so far in database

	<u>Notes</u>	<u>Reports</u>	<u>Conference papers</u>	<u>Publications</u>	<u>Thesis</u>
<u>WP1</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>WP2</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>WP3</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>WP4</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>WP5</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>WP6</u>	<u>0</u>	<u>3</u>	<u>1</u>	<u>0</u>	<u>0</u>
<u>WP7</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>WP8</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
<u>WP9</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>

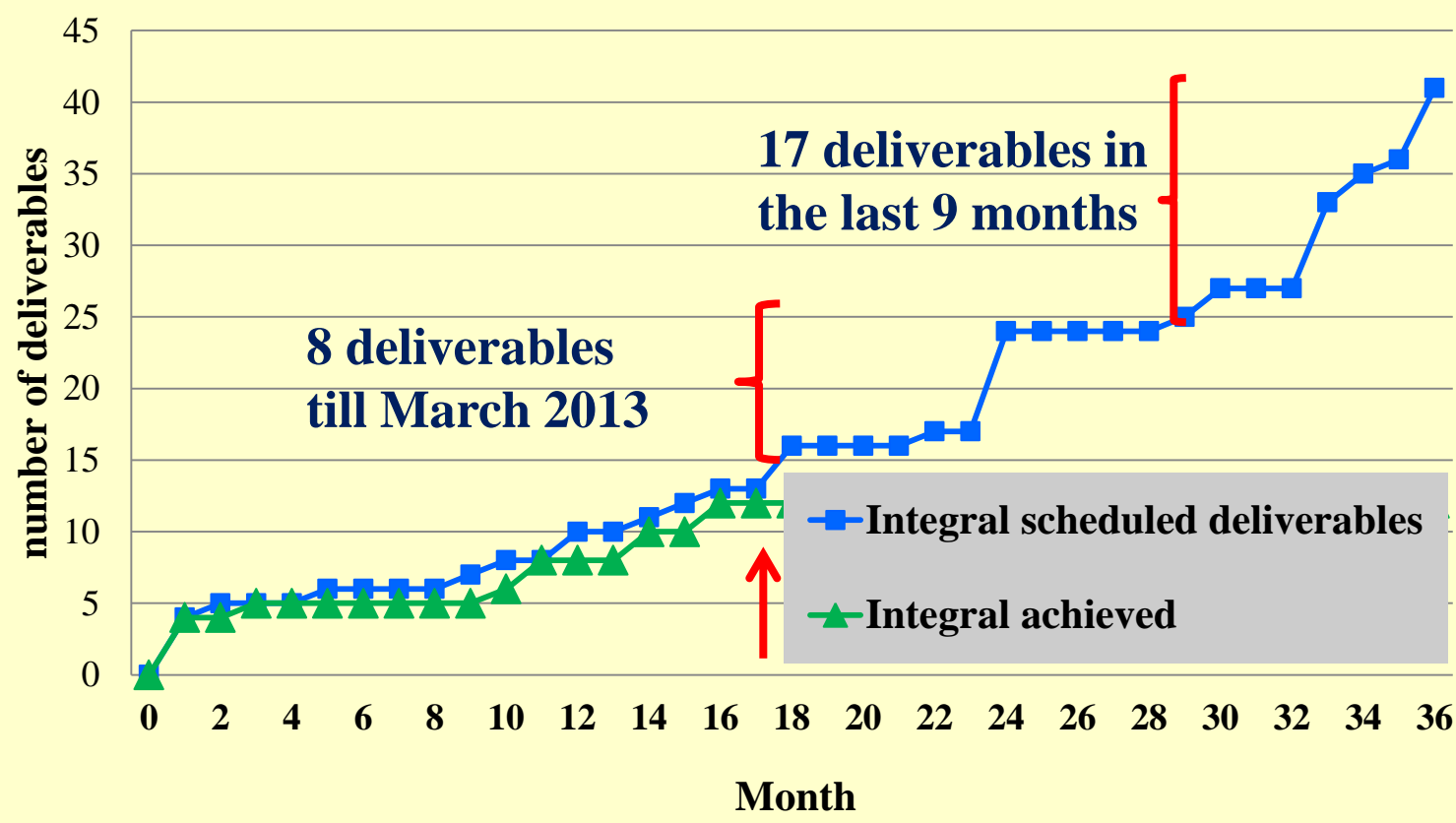


# TIARA-Outlooks



... but a lot has still to be done

### Scheduled deliverables vs months





# TIARA-Outlooks



New logo  
and  
a slogan



You are welcome  
to use it

New Newsletter  
Thank to  
EuCARD  
momentum



Take ownership and  
make it live by  
proposing article

<http://www.acceleratingnews.eu/>

**Some activities will be new**

- **Joint workshops with Industry**
- **Development of dedicated website in relation of “Accelerator for Society”  
backing up a synthetic brochure**





# TIARA-Outlooks



## The impact of accelerators on Society

Particle accelerators were originally developed for investigating the fundamental laws of nature. These machines would do this by accelerating and colliding charged particles at extremely high energies. The resulting particles produced in these collisions would then be detected and analysed to reveal the structure of matter. However, today, accelerators also play an increasingly significant role in society and industry with an extremely important, but often unseen, impact on our everyday life.

Nowadays the vast majority of accelerators are indeed not used for fundamental science but for industrial processes and for applications relevant to society. Among these, the most noteworthy include electronics, electron beam cutting and welding, hardening tyres, medical diagnosis, the treatment of cancer, monitoring air pollution and climate change, the examination and dating of works of art and ancient objects, assessing food and medical goods, cargo scanning and possible future applications towards alternative energy sources.

Fundamental Physics  
Biological & chemical sciences  
Material sciences  
Research

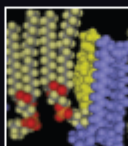
Cleaning flue gases of thermal power plants  
Energy & Environment

Treating cancer  
Medical imaging  
Health & Medicine

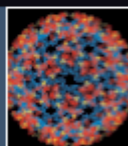
Ion implantation for electronics  
Hardening surfaces  
Hardening materials  
Welding and cutting  
Treating waste & medical material  
Industrial applications

Non-destructive testing  
Cultural Heritage  
Authentication  
Cargo scanning  
Material identification

Safe nuclear power  
Replacing ageing research reactors  
Prospects



**Material Research**  
Beams of photon, neutrons or muons are an essential tool to study materials at the atomic level.



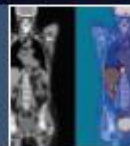
**Protein modelling**  
Synchrotron light allows scientists to solve the 3D structure of proteins e.g. the PSPA, a common bacterium causing disease in animals and humans.



**Cleaning flue gases of thermal power plants**  
The Pomorzany power plant (Poland) uses electron beam to control gas emission of SO<sub>2</sub> and NO<sub>x</sub>.



**Gantry**  
Proton treatment of a deep seated tumour at PSI.



**Positron Emission Tomography**  
CERN tested a prototype of a Positron Emission Tomography scanner. This has led to PET/CT scanning becoming the most advanced clinical tool in cancer diagnosis.



**Ion implantation for electronics**  
All digital electronics rely on ion implantation, build fast transistors and chips.



**Hardening materials**  
Replacing steel with X-ray cured carbon composites can reduce car energy consumption by 50%.



**Cultural heritage**  
Accelerators for non-destructive analysis of cultural heritage. Here "Tibetano Thivulio" is analysed by a particle beam.



**Fusion energy**  
Accelerators may bring the power of the sun "down to earth".

**Next General meeting will be end 2013**

➤ **Date and Venue should be decided soon (call for proposal)**



# TIARA-Special thanks



## Public Relations Dep.

- Isabel Redondo (head)
- Oscar Amores
- Carolina Perales
- Loly Romero

## International Relations Dep.

- Raquel Muñoz (head)
- Isabel Sorlozano

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- Marisa Marco (head)
- Susana Falcón
- Daniel Gijón

Finally many thanks  
to  
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and  
J. Perez

**Enjoy Madrid  
and  
have a safe trip home**