How TANGO was created

Maria Heckl

- 1. Key features of an ITN
- 2. How the idea of TANGO was born
- 3. How I found the partners
- 4. Identification of the individual PhD projects
- 5. Associated partners
- 6. Application process
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1. Key features of an ITN

excellent science coherent large project, linking several PhD tasks research that is important for Europe (green technologies, skills shortage, ...)

partners from several European countries academic and industrial partners full partners and associated partners

research training through hands-on research, specialist workshops, ... complementary training (entrepreneurship, outreach, ...)

gender issues outreach activities innovative (Horizon 2020)

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2. How the idea of TANGO was born

2008 - 2012 involved in ITN LIMOUSINE very male dominated:

14 partners - 1 female

20 fellows - 1 female

2010 attended acoustics conference with many sessions most of them were chaired by men exception: Gunilla's session had different atmosphere (friendly, family-like)

idea: build a female-dominated ITN

my expertise: thermo-acoustics Gunilla's expertise: aero-acoustics

marry the two subjects

3. How I found the partners

head-hunted for women in thermo-acoustics and aero-acoustics

Susann

Ines

Paula

searched for industrial problems

Jakob Wolfgang - Ansaldo Joan

brainstorming with Mico

research topics in thermo-acoustics and aero-acoustics partners

Did a lot of "cold-calling" to find industrial partners - unsuccessful

4. Identification of the individual PhD projects

Potential topics: perforated plates with bias and grazing flow

micro-perforated plates

instability warning system

combustion chamber with heat exchanger tubes

modelling industrial gas turbines

flame-vortex interaction (from unsuccessful grant application)

brainstorming sessions with Sujith (November 2011)

several sessions in one week

task 2.1 Experimental study of laminar dump combustor

task 2.2 Analytical study of laminar dump combustor

task 2.3 Experimental study of turbulent swirl combustor

task 2.4 Numerical study of turbulent swirl combustor

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KTH Workshop

task 2.5 Consolidation of experimental, analytical and numerical results for laminar and turbulent combustor (for post-doc)

brainstorming sessions with Gunilla, Susann, Hans, Ines (Dec. 2011)

several sessions in one week

- task 1.1 Experimental and analytical study of a cold-flow combustor with virtual flame
- task 1.2 Numerical study of laminar dump combustor and its cold-flow equivalent
- task 3.2 Study of passive control by micro-perforated plates

thermo-acoustics and aero-acoustics got married

brainstorming sessions with Jakob and Wolfgang (Sept. and Dec. 2011)

task 3.1 Development of instability warning system

- task 3.3 Analytical study of idealised combustion system with heat exchanger
- task 3.4 Study of a thermo-acoustic system with heat exchanger in cross-flow

KTH Workshop

brainstorming session at Ansaldo (Dec. 2011)

task 3.6 Measurement of FTF in industrial gas turbine task 3.7 Numerical and analytical study of industrial gas turbine

email/telephone discussions with Paula and Joan (Dec. 2011)

task 1.3 Numerical study of perforated plates with grazing and bias flow task 3.5 Numerical and experimental study of domestic burner with heat exchanger

tasks fall into 3 groups: 3 work packages



5. Associated partners

Catholic University of Leuven	В	Academic supervisor for LMS fellow
University of Genova	I	Academic supervisor of AE fellow
Sontech AB Microperforate manufacture	S	Host of secondments
Eberspächer Exhaust System Acoustics	D	Host of secondments
Sorama Acoustic Holography	NL	Host of secondments Entrepreneur advisor
Liebherr-Aerospace Toulouse Airconditioning systems	F	Industrial advisor
Deutsches Museum large science museum in Munich	D	Outreach advisor
Instituto Superior Técnico Lisbon	Р	Collaborator on workshops

also: 2 senior visiting researchers (Mico, Alan)

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6. Application process

30 page application form

- 4 sections: 1. Research
 - 2. Training
 - 3. Implementation
 - 4. Impact
- time line: submission: Jan. 2012 notification: May 2012 contract negotiations: May 2012 - July 2012 start date: 1 November 2012

7. Tips for the proposal preparation

Face-to-face discussions and brainstorming sessions are vital.

Visiting potential partners requires time, mobility and funds.

Copy/paste from earlier proposals does not work.

Industrial partners are not easy to find – invite them early.

Be prepared to deal with uncertainties and unexpected events.

Misunderstandings can occur because different disciplines and different countries have different "cultures".

Academics close to retirement are a good source of information.

8. Benefits

ITNs are a good opportunity to set up and run exciting research projects.

The funding is attractive (~ £60 000 over 3 years to cover training expenses of a PhD student).

ITNs are multidisciplinary and give insights into other areas.

The international aspect is very stimulating.