

# WG2 parallel session: Modelling and Simulation of BISTS



# Agenda

- 1- Welcome to participants
- 2- Adoption of the agenda
- 3- Objectives, deliverables and working programme
- 4- Distribution of tasks
- 5- Promotion of gender balance and of ESR
- 6- Timetable of work

# Participants

Mirolad Bojic (Serbia)  
Muhsin Kiliç (Turkey)  
Lacour Ayompe (Ireland)  
Aritra Ghosh (Ireland)  
Mick McKeever (Ireland)  
Jayanta Mondol (UK)  
Ricardo Mateus (Portugal)  
Eliseu Ribeiro (Portugal)  
Christoph Maurer (Germany)  
Danijela Nikolic (Serbia)  
Alberto Coronas (Spain)  
Daniel Chemisana (Spain)



# Objectives

- **Objectives** of WG 2 are:
  - To deliver new mathematical and numerical models to predict the performance of BISTS
  - To validate the models using the experimental data acquired for the BISTS stated and characterised in WG1
  - To explore the validation and implementation of these models in numerical codes
  - To investigate the use of these new numerical codes to design new optimised RES.
- These objectives will be fulfilled through the following tasks:
  - **Task 2.1 Development of new mathematical and numerical models for BISTS**
  - **Task 2.2 Validation and implementation of codes developed in Task 2.1**

# Deliverables and Milestones

- **Deliverables** include:

- D 2.1. Review of current STS modelling techniques. This review will also be submitted as a joint partner publication in a peer reviewed journal (Month 12)
- D.2.2. Annual STSM for PhD students and Early Stage Researchers on theoretical modelling and numerical simulation of thermal behaviour of BISTS (Month 6, 18, 30, 42)
- D.2.3. Annual Training School for dissemination of expertise to PhD students and Early Stage Researchers (Month 18, 30, 42). This will include topics on theoretical modelling and numerical simulation of thermal behaviour of BISTS.
- D 2.4. Report on the validation of developed codes, both thermal and optical (Month 30). Manolis Souliotis and Lacour Ayompe.
- D 2.5. Report on the new models developed during the project and potential for adaptation for RES (Month 42). Muhsin Kiliç and Joao Ramos.
- D.2.6. Report on the development of new models for innovative integrated STS applications ( Month 46). Jayanta Mondol and Milorad.

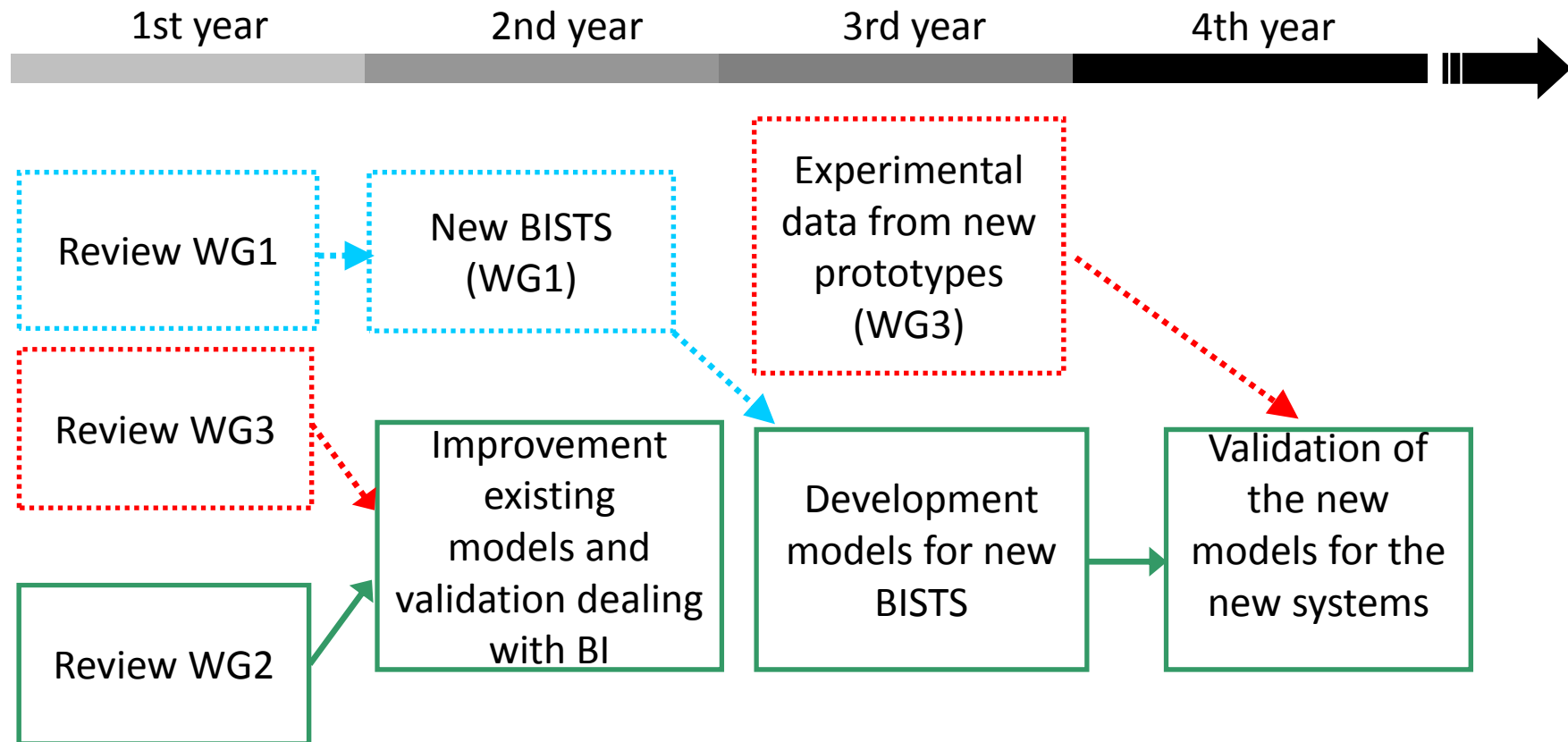
1st Year

- **Milestones:**

- 2.1 New validated mathematical and numerical models to predict the BISTS performance
- 2.2 New validated models to optimize BISTS in innovative RES applications



# Working programme



# 1<sup>st</sup> year tasks distribution and timing

**A- Review of current STS modelling techniques. This review will also be submitted as a joint partner publication in a peer reviewed journal (D2.1 Month 12).**

**–Literature review/ state-of-the art on actual models to simulate STS. Critical review focused on further improvements on the models.**

**-Structure:**

**-STS modelling techniques: steady-state, quasi dynamic, dynamic**

**-Building simulations incorporating STS: TRNSYS, E+, Modelica.**

# 1st year tasks distribution and timing

## Timing:

**15th November** (Next meeting, in Cyprus) Partial drafts: -STS modelling  
-Building simulation

**15th November:** Discussion of the review draft and about the final structure

**15th March:** First complete draft review for discussion

**15th April:** Deliverable submission to the chairman





# 1st year tasks distribution and timing

## B- Short Term Scientific Mission (STSM)

**15th November:** Discussion concerning the proposal draft and the definition of the placement in time and place.

**Foreseen Dates:** From January to March 2014

## C- Training Schools

**15th November:** To talk about the topics figured out from the reviewing task for first training school, planned for the month 18.

**Topics should cover the gaps and necessities detected**



# Promotion of gender balance and of ESR

To promote gender balance in the STSM (ESR) or lecturers in training schools.



# Timetable

	1st year											
Task	1	2	3	4	5	6	7	8	9	10	11	12
A												
B												
B1: Planning												
B2: Internship												
C: Planning												

# Minutes

- To collect a report from each institution regarding modelling and simulation (End June 2013)
- A template will be sent to be filled.
- From the report partial schedules for the review/s will be proposed (End of July 2013)
- Partial review drafts (Next meeting)
- Organisation of the review/s reports to deliver (Next meeting)
- To get feedback from WG1 and WG3 concerning modelling and simulation issues about the systems proposed from the different institutions.
- Discussed about the different modelling techniques and simulations to combine the system with the building environment.
- After detecting gaps from the institutions' reports and the review task a proposal of the STSM topics will be done (Next meeting).
- Training school issues were discussed regarding expertises from the different institutions. (Next meeting).
- Final review reports to be submitted / delivered (Third meeting).