



## Action MP1308 Fact Sheet

**Title**  
Towards Oxide-Based Electronics (TO-BE)

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<b>Details</b>			
Draft Mou:	oc-2013-1-15086	Mou:	077/13
Start of Action:	15/04/2014	Entry into force:	10/12/2013
End of Action:	14/04/2018	CSO approval date:	15/11/2013

**Objectives**

Transition-metal-oxide-based films and heterostructures are at the core next-generation nanoelectronic, microelectromechanical and macroelectronic devices expected to revolutionize fields of major social relevance as digital information and communication technologies, microactuation/microsensing and energy conversion. Such class of materials is characterized by an unprecedented wealth of functionalities, often being relevant to different fields of application, found in compounds that are extremely similar to each other in terms of chemistry, crystal structure and fundamental mechanisms. The necessity to handle the unprecedented complexity of these materials rescales efforts of solid state scientists to a higher level and poses challenges that no individual Institution or Nations can face. The approach of the Action is based on the belief that fundamental and technological unsolved issues lie on grounds that are common to all transition metal oxides. The know-how progress should therefore not be addressed independently by separate communities concentrating on understanding single phenomena or exploiting single functionalities, but resorting, in view of the above mentioned similarities, to a thoroughly multidisciplinary approach. The TO-BE Action will network nationally- and EU-funded researches active on synthesis, analysis, modelling and applications of transition metal oxides within the ERA, allowing to: define targets, strategies and methods; reduce fragmentation; aggregate communities with complementary know-how; attract and train a new generation of researchers; establish a regular know-how transfer with private corporations and other stakeholders; built the future oxide electronics community by fostering the participation of early stage researchers and tackling gender unbalance. The success of the Action will strengthen the innovative capacity of EU industry by making qualitatively new enabling technologies accessible for commercial exploitation.



Parties							
Country	Date	Country	Date	Country	Date	Country	Date
Austria	17/01/2014	Belgium	28/01/2014	Croatia	07/03/2014	Denmark	22/11/2013
Finland	01/04/2014	France	16/12/2013	Germany	07/01/2014	Greece	20/12/2013
Ireland	29/01/2014	Israel	27/11/2013	Italy	30/12/2013	Lithuania	08/04/2014
Netherlands	07/01/2014	Poland	10/12/2013	Portugal	21/01/2014	Serbia	02/12/2013
Spain	29/11/2013	Switzerland	24/03/2014	Turkey	13/02/2014	United Kingdom	13/12/2013

Total: 20

Intentions to accept the MoU							
Country	Date	Country	Date	Country	Date	Country	Date
Slovenia	N/A						

Total: 1

Working Groups
None

Website
<a href="http://people.na.infn.it/miletto/TO-BE">http://people.na.infn.it/miletto/TO-BE</a>

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COST Action MP1308  
Materials, Physical and Nanosciences



COST Grant System  
9 April 2014

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