EXAMPLE EXPRESSION OF INTEREST

European Metrology Research Programme
ERA-NET PLUS

iMERA-PLUS

'Guidance to Applicants: Annex 2' provides explanatory notes on how to complete an Expression of Interest. The notes are referenced in this form by a number in square brackets, eg [3]. Pressing F1 while in a form field will give you some basic explanatory notes.

Targeted Programme name[1]:	TPx: Photometry and Radiometry
The institute submitting the Expression of Interest	
Legal name[2]:	Imaginary National Metrology Ltd
Short name[3]:	INML
Name of the NMI expert responsible for the EoI[4]:	Jane Precise
Contact details for the NMI expert[5]:	INML
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Submitted[6] by Jacques Heinze, Director of Science, on 3 April 2007, acting under the authority given by Imaginary National Metrology Ltd.

☒ I confirm that the Institute named above is part of a publicly funded national metrology system, as either an NMI, DI or other body defined as eligible in the Call.

☒ I confirm that the Institute named above is willing and able to accept the duties and obligations associated with participation in the EMRP.

Please note that:

- By naming and giving the position of the person submitting the EoI you are declaring that they have the approval and authority of your institute to make this submission.
- EURAMET e. V. will make no payment and no reimbursement of expenses related to the preparation of any Expression of Interest or the preparation of any subsequent Joint Research Projects
- Submission of an EoI does not bind the submitter nor EURAMET e.V. to further negotiations, and EURAMET e.V reserves the right to cancel all or part of the Call.

Submit this Expression of Interest to emrp@npl.co.uk

Ref. no.: <leave blank>

1. Relevance of this EoI to the objectives of The Targeted Programme[7]

The areas of interest we submit all fall within the iMERA-PLUS 2007 Call, and are all areas where we wish to collaborate. Novel optical radiometric capabilities are our highest priority and the area where we can contribute most. We do have other suitable capabilities, which we have also included. All of the areas proposed below have been discussed with our ministry and within INML and subject to the eventual development and selection of appropriate JRPs we are able to pool the "in kind" stated resources and align objectives in order to proceed collaboratively in these areas. We have some flexibility on timescales, and are able to accept guest workers and secondees. Resource estimates are only approximate.

INML has a dedicated programme of activity in P&R and thus has extensive capability, equipment and facilities for most, but not all of the areas listed in the P&R section of the EMRP. There is strong convergence of the longer-term aims of the INML programme activity and the EMRP. Specifically the EMRP lists three top-level bullets for P&R, which it identifies as needing to be addressed most urgently. Of our 4 Areas of interest 1, 2 and 3 address three of the four listed sub-areas of the first bullet in the EMRP (Novel optical radiometric capabilities). We have significant world-class expertise and facilities and would consider leading collaborative projects in any of these three areas, and would be particularly keen to do so in the THz area. We have no expertise in the remaining sub-area of the first challenge (light to energy conversion) and it is not included in this EoI. Area 4 of this EoI addresses the third priority area for P&R in the EMRP (Visual perception). The third bullet of the EMRP (Area 4 below) is relatively new for us, we have recruited and expert with a good track record in relevant R&D but rather than invest in equipment at this stage we would seek to second our scientist to a partner laboratory with established capability within a collaborative project. Outgoing guest workers / secondees are subject to personal situations and are agreed on a case by case basis, though the outgoing secondment related to Area 4 has been agreed in principle by the INML scientist concerned.

1.1 Summary List of Areas of Interest[8]

Area Ref.	EMRP Reference or relevant section	Area of Interest
1. <Annnn>	III.2.2 P&R Bullet 1 (page 32)	3D Metrology for innovative optical light sources
2. <Annnn>	III.2.2 P&R Bullet 1 (page 32)	Radiometry for monitoring the environment
3. <Annnn>	III.2.2 P&R Bullet 1 (page 32)	Establishment of a unified radiometry from THz to EUV range
4. <Annnn>	III.2.2 P&R Bullet 3 (page 32)	Physical measurements of visual perception for product quality
5. <Annnn>		
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2. Resource Information

2.1 Total labour resource available[9]

INML has a team of about 25 scientific and technical staff (approximately 23 FTE) working on activities relevant to this TP. A small number are entirely involved in national activities and would not be available, but around ¾ of the staff resource could be available in principle, though in practice (and of course subject to eventual elaboration and selection of the JRPs) we would envisage not more than 6 to 8 FTE staff working on the collaborative projects, possibly and exceptionally perhaps up to 10. This is less than the sum of the resources indicated in the various Areas in Section 3, so if projects were developed in all the identified areas some prioritisation would be needed. Our expert will be fully briefed and able to discuss actual resources. Some of the specialist scientists named below would only work on certain objectives. Junior scientists can be used flexibly across all areas.

2.2 Person-month rate[10]

INML's person-month rate (including overhead) for the Photometry and Radiometry Targeted Programme is yyyy €.

2.3 Special facilities[11]

As well as a number of extensively equipped laboratories we have a Large goniometer which is unique see website www.XXXX , This facility is made available to the team on a marginal cost basis which is not covered by the scientific staff overhead, it can be made available for collaborative projects on the same basis a cost of zzz € per day.

2.4 Secondments and guest workers[12]

The INML laboratories have a formal inward and outward international guest worker and secondment scheme which contributes to T&S expenses. See also the specific statement related to Area 4.

3.1 Details for each Area of Interest[13]

EoI Ref. No.	<leave blank> <Annnn>
Area of Interest[14]	**1. 3D Metrology for innovative optical light sources**
Scientific and Technical Quality[15]	INML scientists have published a number of peer reviewed papers in recent years (see the list below), co-authored the "3D Metrology – A Best Practice Guide" INML - 2005, which is currently being updated. We hosted a national workshop on 3D metrology in 2006 co-organised with Lechiia Europe and attended by about 50 from industry and academics, and by a number of other NMIs. Maguelonne Other, an INML Fellow, was recently appointed as a member of the Rees Incorporated "Independent Review Group" looking at operational and research developments in 3D metrology for the aerospace sector. Within our national programmes we have an active and growing R&D portfolio, particularly related to 3D displays for air traffic control, where we are the lead partner for EUROSKYS. VSAR results have been particularly promising and there has been lots of interest from others.We have published almost 20 papers on 3D metrology, of particular relevance isAAA. John Smith is a an assessor for our national Accreditation Body for P&R **Expert Groups[16]**: Maguelonne Other is a member of EUROMET TC PR which she chaired from 2002 to 2004. She currently sits on EURO-DL, SAE, VESA. John Smith is vice chair of CIF division 2. Both Maguelonne and John contributed to the IMERA roadmapping
Resource Information	**Staff availability[17]:** Up to 4 FTE per year, out of a team of 15 staff **Specialist scientists[18]:** Area of Interest 1, 2 and 3: Maguelonne Other, John Smith Area of Interest 4: Aled Jones **Specialist equipment/facilities[19]**: Large goniometer, available for this project, it is subject to a daily rate **Constraints[20]:** Outcomes 1-3 should be completed by 2010, outcome 4 by 2009. Funding has been provisionally agreed but requires ministry final sign off.
Key desired outcomes[21]	**Key outcomes:** 1. Validated European method for measurement of haze reflection of display screens agreed and implemented by 2009 2. Metrology solutions meeting EUROSKYS requirements for dual view and 3D display screens assessed and recommendations made to NMIs by July 2008 3. Perceptual requirements of visual displays for 3D models VSAR established and presented at Metrologie 2010 4. Establish underpinning capabilities to link sensory measurements to SI units by March 2009.

3.2 Details for each Area of Interest[13]

EoI Ref. No.	<leave blank> <Annnn>
Area of Interest[14]	**2. Radiometry for monitoring the environment**
Scientific and Technical Quality[15]	INML scientists have published a number of peer reviewed papers in recent years (see the list below), led the Minsitry of Environment "Better environmental measurement" Task Force and conducted an active theme within the national programme in this area. However it is clear the goal of a spaced based calibrating system could only be achieved collaboratively, this has so far been a too ambitious objective for one country, so it has only been discussed in principle so far. **Expert Groups[16]**: Joan Detz is CP for EUROMET TC-PR.
Resource Information	**Staff availability[17]:** Up to 4 FTE per year, out of a team of 12 staff. **Specialist scientists[18]:** Joan Detz, David Byrne **Specialist equipment/facilities[19]**: GRASS, TSARS, SRIPS **Constraints[20]:** For operational reasons the radiometer will not be available for 4 months in 2008.
Key desired outcomes[21]	**Key outcomes:** 1. Design construction and commissioning of high accuracy radiometer with resolution improved to <x% by end 2009. 2. Study to identify techniques suitable for in flight calibration of radiometer published in Metrologia no later than September 2009. 3. Demonstrate ground and ocean based targets with SI traceable calibration by summer 2010.

3.3 Details for each Area of Interest[13]

EoI Ref. No.	<leave blank> <Annnn>
Area of Interest[14]	**3. Establishment of a unified radiometry from THz to EUV range**
Scientific and Technical Quality[15]	INML is a world leader in THz, and has excellent capabilities at the EUV end of the scale. The laboratory performance in comparisons has improved drastically with the introduction of the new THz multi parameter metre developed jointly by INML and PTC, and both laboratories are now at the forefront of developments. here have been discussions regarding a 2nd generation metre, and we would be keen to collaborate subject to appropriate IP arrangements. We lead the National Terahertz "club" which has attracted worldwide participation. Publications are extensive and are listed below. Joan has led a number of EC projects in this field and we feel very well placed to offer scientific leadership on this topic. **Expert Groups[16]**: Joan Detz is CP for EUROMET TC-PR.
Resource Information	**Staff availability[17]:** Up to 4 FTE per year, out of a team of 12 staff. **Specialist scientists[18]:** Joan Detz, David Byrne **Specialist equipment/facilities[19]**: Super widget terahertz compiler **Constraints[20]:** Our widget lab will be closed for refurbishment until summer 2008
Key desired outcomes[21]	**Key outcomes:** 1. Design construction and commissioning of high accuracy radiometer with resolution improved to <x% by March 2009. 2. Study to identify techniques suitable for in flight calibration of radiometer published in Metrologia no later than September 2009. 3. Demonstrate ground and ocean based targets with SI traceable calibration by March 2010.

3.4 Details for each Area of Interest[13]

EoI Ref. No.	<leave blank> <Annnn>
Area of Interest[14]	**4. Physical measurements of visual perception for product quality**
Scientific and Technical Quality[15]	We have recently hired Dr. Jason Grumble, well renowned scientist from University of Cambridge to extend our capabilities. Jason has published extensively on this topic and maintains his links with the University, who have also expressed an interest on working with the NMIs (with their own funds). However we are currently limited by the lack of advanced refleometry capability and therefore envisage any engagement in collaborative work being based on a secondment, part time, to an NMI partner with the appropriate facilities. **Expert Groups[16]**: Jason sits on the European Worker Safety Human Perception WG, and was recently elected as Chair of the Institute of Lighting Engineers sub committee on colour perception
Resource Information	**Staff availability[17]:** 1 FTE per year (Jason Grumble) plus some modest support from a team of 2 staff. **Specialist scientists[18]:** Jason Grumble **Specialist equipment/facilities[19]**: None **Constraints[20]:** Jason is reasonably free to travel and work as a guest worker, but it has to be in an English, German or Polish speaking environment
Key desired outcomes[21]	**Key outcomes:** 1. Jason has wide ranging expertise and would also be interested in joining in any appropriate collaborative projects that fall within his area of expertise. He (and INML) is particularly interested in validated data based perception scale, but recognises that other priorities may attract more interest from other laboratories.

[Subsequent tables are empty, and are omitted to save space]