

# FEBRUARY 2014 Market Sounding Prospectus [Version 1.0]

# website prolitepartnership.eu



This Market Sounding Prospectus is a living document and will be updated with new information throughout 2014. It provides an overview of the requirements identified by the PRO-LITE partners to inform the ideas and innovations submitted through PRO-LITE's Online Submission Tool – which can be found on the PRO-LITE website (www.prolitepartnership.eu).

Please read this Market Sounding Prospectus carefully before submitting an idea through the <u>Online Submission Tool</u>.

# **PRO-LITE Early Market Engagement**

# - Market Sounding Prospectus -

# [Version 1.0]

# **Table of Contents**

1. Introduction	4
2. Background information on PRO-LITE Partners	5
2.1 City of Torino – Northwest Italy	5
2.2 Free Hanseatic City of Bremen – Germany	5
2.3 Transport for London (TfL) – United Kingdom	6
2.4 Consip.S.p.A – Italy	6
3. Why are we conducting Market Sounding?	7
4. PRO-LITE Requirements	8
5. Who should submit an idea?	12
6. PRO-LITE Procurements	13
5.1 City of Torino Lighting procurement	13
5.1.2 Current status of lighting at Primary school Dal Piaz	14
5.1.3 Current status of lighting at Primary school Parri	16
5.1.4 Current status of lighting at Secondary school Via Revel	18
7. Making a Submission	20

# 1. Introduction

Procurement of Lighting Innovation and Technology in Europe (PRO-LITE) is a novel project co-funded by the European Commission (under the 'Supporting Public Procurement of Innovative Solutions' grant programme) to support the development of guidance for public sector authorities on how they can consolidate their procurement power to create economies of scale, procure innovative products & services, and drive the European economies.

PRO-LITE aims to exemplify how public sector organisations can overcome procurement barriers to deliver innovative and cost-effective technologies for their organisations, and at the same time support economic growth. **PRO-LITE will focus on the procurement of innovative lighting technologies that will offer improved social, environmental and economic benefits.** 

Four PRO-LITE partners based across 3 European Member States (namely, the United Kingdom, Italy and Germany) aim to procure innovative lighting solutions (or develop new procurement frameworks or contracts for lighting) for a range of applications, including buildings (schools and offices), streets (traffic lighting and other road lighting) and tunnels (underground rail networks).

As part of a package of 'Early Market Engagement' activities and documentation, this Market Sounding Prospectus provides information on the lighting requirements identified to date by the PRO-LITE partners and details their planned procurement activities to inform the organisations/individuals/innovators preparing information to submit through PRO-LITE's Online Submission Tool.

# 2. Background information on PRO-LITE Partners

### 2.1 City of Torino – Northwest Italy

• Torino aims to procure lighting for school buildings in 2014/15.

The aim of Torino's participation in the PRO-LITE project is to procure innovative lighting systems as part of a wider renovation programme of school buildings. The school buildings will be renovated to respond better to the needs (e.g. comfort) of both students and staff. The buildings will be used for both traditional (teaching) and new functions, as well as reduce energy consumption by at least 20% on 2011/12 levels. Lighting will need to contribute to both reductions in energy and maintenance costs.

PRO-LITE presents the opportunity for Torino to evaluate options to integrate new functionalities into the lighting systems – for instance – building automaton systems (for monitoring and regulating lighting and heating consumptions and/or for monitoring security conditions) and/or internet-enabled data delivery solutions in order to improve the overall educational experience for all.

### 2.2 Free Hanseatic City of Bremen – Germany

• Bremen aims to procure lighting for school buildings in 2014/15/16.

The Municipality of Bremen is the capital of the north-western German state "Free Hanseatic City of Bremen". Bremen is the tenth largest city in the Federal Republic of Germany with a population of approximately 2.4 million people. Bremen has a very strong track record in developing and managing construction projects – utilising innovative technologies, including lighting.

Bremen will renovate a number of rooms in schools, where one of the key objectives will be to identify and install innovative and exemplary lighting solutions that will meet the needs of the pupils that attend the schools, in addition to improved environmental and commercial outcomes.

Bremen will use the PRO-LITE project as an opportunity to strategically development and implement energy-saving lighting technologies in publically owned buildings. Additionally, through the development of the project, new methods of procurement will be developed and tested, and the resulting knowledge and tools will be used to enhance procurement methods used throughout the municipality and Germany.

### 2.3 Transport for London (TfL) – United Kingdom

• TfL aims to procure lighting for underground rail networks and street lighting in 2015/16.

TfL's mission – as stated in its current Business Plan<sup>1</sup> – is 'to keep London working, growing and to make life in London better'. TfL is committed to reducing London's transport network's contribution to climate change as part of wider ambitions to reduce London's  $CO_2$  emissions by 60 per cent by 2025 (in comparison to 1990 levels).

Through the development and delivery of the PRO-LITE project, TfL aims to:

- Develop 'tried and tested' guidance for Procurement Officials on how to procure innovative products and services;
- Ensure TfL does not miss good opportunities to innovate within it's supply chains to deliver better products and services for it customers and the environment;
- Demonstrate the contribution it can make to the wider UK economy through it's procurement power;
- Communicate good examples of innovative procurement approaches that have lead to improved business outcomes;
- Inform the development and deliver the innovation elements of its internal Lighting Category Strategy.

### 2.4 Consip.S.p.A – Italy

• Consip aims to develop a new procurement framework for public street lighting in 2015/16.

Consip's mission is to rationalise spending on goods and services by Italian Public Administrations, improve the quality of purchases as well as reduce the unit costs of products through an in-depth knowledge of markets and the aggregation of demand. At the same time, Consip aims to simplify and increase the speed and transparency of public procurement procedures.

In the field of public lighting, Consip awards Framework Contracts for urban street lighting services. Thus, in the frame of the PRO-LITE project, Consip's main purpose is to improve the effectiveness of this typology of framework contract in order to enhance safety and security of public streets, make lighting systems more cost-effective, reduce energy consumption and carbon emission, and increase the participation of Research & Development (R&D) and innovation–oriented Small and Medium sized Enterprises (SMEs).

In particular, the outcomes of the PRO-LITE project will be aimed at both providing suppliers of current framework contract with advice and support to enhance their performance, as well as improving the design of the next 'call' for a Public Lighting Framework Contract (planned for 2016).

<sup>&</sup>lt;sup>1</sup> http://www.tfl.gov.uk/assets/downloads/business-plan-gla-budget-update.pdf

# 3. Why are we conducting Market Sounding?

Market sounding is a way of assessing the reaction of the market to a proposed set of requirements and procurement approaches in order to bring supplier perspectives to public sector procurements at an early stage<sup>2</sup>. Market sounding is increasingly used by public sector authorities to encourage markets to suggest plausible and innovative solutions.

Through market sounding and consultation, PRO-LITE partners aim to incentivise the lighting market to suggest solutions capable of meeting their requirements. Once each market consultation period has ended, PRO-LITE partners aim to characterise the market's appetite to fulfil their requirements as well as the markets preferred procurement approach(es) to deliver the required innovative lighting solutions/technologies.

PRO-LITE partners will aim to respond to interested suppliers, manufacturers and innovators (identified through PRO-LITE's Online Submission Tool), and begin more in-depth discussions as appropriate on how proposed lighting solutions will meet their requirements.

<sup>&</sup>lt;sup>2</sup> Office of Commerce (2006). Early Market Engagement: principles and examples of best practice.

# 4. PRO-LITE Requirements

PRO-LITE partners aims to procure innovative lighting solutions for:

- Buildings (school and office buildings)
- Streets (traffic lighting and other road lighting)
- Underground (underground rail networks)

Internal research conducted by the organisations involved in the PRO-LITE partnership identified several common requirements. Organisations submitting information through PRO-LITE's Online Submission Tool are asked to consider how through their innovative lighting solution these requirements might be met. The requirements identified are:

#### Reduced maintenance and replacement costs

PRO-LITE partners collectively spend over €200 million each year on lighting. This sum includes costs for installation, maintenance, replacement and energy costs, as well as light fittings and bulbs. Within this, maintenance costs are the 'hidden' and high cost associated with lighting. Maintenance costs include expenditure on cleaning materials and other 'heavy duty' equipment used to access light fittings; but most of all, staff costs. PRO-LITE partners are keen to identify and implement lighting solutions that require lower maintenance costs.

#### Reduced energy and Carbon (or equivalent) emissions

Due to increasing energy costs, PRO-LITE partners predict that their overall expenditure on lighting will remain about the same (or increase by a few percent each year) despite internal strategies and policies to employ more efficient lighting technologies and solutions. Lighting solutions that demonstrate net reductions in energy costs are seen as the most attractive for PRO-LITE partners. All of the partners in the PRO-LITE partnership are working to deliver organisational, local, regional and European level targets or ambitions on carbon (or equiv.) reductions.

#### Technology transfer innovation

PRO-LITE partners aim to procure innovative lighting solutions for a diverse range of applications, including buildings (schools and offices), streets (traffic lighting and other road signalling) and tunnels (underground rail networks). While this diversity in lighting applications could present challenges when communicating PRO-LITE partners requirements to potential lighting innovators, developers, manufacturers and other supply side actors, it also presents the opportunity for innovators to identify technologies that could be transferred from one application area to another (for example – from street lighting to an underground rail network setting). PRO-LITE partners are interested in identifying lighting technologies and solutions that have been applied successfully for other purposes – different to their own – with a view to determine if these technologies might be readily transferred; potentially creating new economies of scale for themselves as well as lighting manufacturers and innovators.

#### Improved Lighting Flexibility

PRO-LITE partners currently use a diverse range of lighting solutions, from High and Low Pressure Sodium lamps, through to standard Light Emitting Diode (LED) technologies. These technologies are increasingly supported (where possible) by sensors that detect 'occupancy' (of a room for example) – ultimately delivering reductions in overall lighting and energy costs. PRO-LITE partners aim to increase the uptake of these technologies as well as identify and implement improved 'smart lighting solutions'. Whilst the diversity in the range of lighting solutions applied by PRO-LITE partners reflects the diversity of their current lighting requirements, some PRO-LITE partners would welcome technologies that could be used in a range of configurations (modular style lighting systems/bulbs) to fulfil the majority of their needs. PRO-LITE partners are conscious however, not to create or bolster lighting monopolies/oligopolies through a move to deliver lighting 'commonality'.

#### **Robust Novel Technologies**

LED technologies are currently regarded as the 'technologies of choice' for renovation, retrofits and refits amongst the PRO-LITE partners, largely due to the potential for reductions in maintenance and energy costs. However, some PRO-LITE partners have raised concerns that some of the LED technologies currently available in the market – with regard to dimming in particular – will not fulfil their lighting requirements. This is particularly important for the public settings (for example, in schools), for which it may be necessary to verify technologies. Absence sensors (as opposed to presence or movement sensors) – which switch lights off automatically (after a pre-set time delay) when occupancy is no longer detected – are seen as a potentially important lighting solution by PRO-LITE partners, again, largely due to the potential for reductions in maintenance and energy costs. Daylight sensors are also under consideration.

#### Improved 'Economies of Scale'

As PRO-LITE partners apply a variety of procurement methods – including 'energy performance contracting' – and use a range of different lighting technologies, economies of scale can be hard to achieve. Consequently this limits the overall scope to apply procurement approaches that drive innovation. PRO-LITE partners have recognised this, and are:

Developing and adopting improved lighting category strategies to characterise their organisations overall use of lighting technologies and solutions (regardless of how they are procured); and,

Identifying other local public sector organisations they could 'join forces' with to approach the market. This approach could lead to improved economies of scale for the public sector organisations involved, as well as service providers and lighting manufacturers.

#### Reduced Whole Life Costs (including installation and maintenance costs)

Installation and maintenance costs are a key concern for some project partners, particularly for those servicing underground rail networks and street lighting (including traffic lights and

other road signalling). These forms of lighting often require specialist technicians and equipment for installation and maintenance, which can ultimately result in higher than usual servicing costs. Installation and maintenance are also often managed by different organisations – hence are paid for out of different budgets. Energy costs are also often budgeted separately to maintenance and installation costs.

Incorporating Whole Life Costs (WLCs) into contracts is increasingly a standard requirement for all PRO-LITE partners. WLC information could potentially aid better assessments of the costs associated with the inherent maintenance and replacement cost that accompany some lighting solutions as well as energy costs. In general, PRO-LITE partners aim to achieve overall lower WLCs (including, installation, maintenance, energy, replacement etc). Partners are also considering Resource Efficiency provisions, but feel reliant on the market to deliver products that comply with the full range of relevant policy considerations.

#### Adherence to internal policies

In addition to targets and policies set at a European level (in relation to - for example - climate change and energy use), innovative technologies and solutions must adhere to the internal policies of the PRO-LITE partners. These include policies on:

#### A – Safety,

PRO-LITE partners have a number of internal, regional, national and EU level regulations (for example, on fire safety) that must be met before products are procured and implemented. Regulations go beyond the scope of this Early Findings Report. PRO-LITE partners are gathering information on the specific safety regulations and policies that lighting solutions will need to meet.

#### **B** – Levels of illumination and control,

PRO-LITE partners have concerns that the some lighting technologies currently available on the market do not provide 'omni-directional' lighting (e.g. some LED technologies), meaning they will not provide the levels of illumination necessary to meet their diverse requirements. Evidence also indicates that some LED lighting solutions are not dimmable and therefore would not meet some of the more specific requirements identified by some PRO-LITE partners.

#### C – Customer comfort,

PRO-LITE partners, as public sector organisations, provide services to the general public. It is important that lighting solutions meet the variety and changing needs of the public. For instance, some PRO-LITE partners aim to procure a lighting solution for buildings that will be used for multiple purposes.

#### D – Energy monitoring,

Some PRO-LITE partners are required to keep accurate and detailed records of their energy use, in-order to set targets for energy reductions as well as assess wider impacts. PRO-LITE partners require better and more precise energy monitoring services.

#### Increase market diversity & innovation, and support for European economies

The role SMEs can play to contribute to economic growth and employment is well documented. The public sector is a particularly important market for SMEs. PRO-LITE partners recognise this, and the latent innovation potential SMEs present. PRO-LITE partners aim to adopt a SME friendly procurement approach to make the most of their potential for job creation, growth and innovation. PRO-LITE partners also – through their market engagement activities – aim to tailor their procurement approaches to maximise the range and diversity of suppliers benefiting from public sector investment across Europe. Partners will promote economic growth by stimulating new and commercially viable ideas in industry, and encourage the translation of scientific research into innovative goods and services.

#### Improved Lighting Quality

Scientific research has shown that 'good quality' lighting can enhance the 'mood' of users within social and work settings, and contribute to a general sense of wellbeing. In the office and other work settings it is becoming increasingly popular to tailor lighting to maximise productivity and output. PRO-LITE partners aim to uncover innovative lighting solutions that are not suitable for application, but also enhance the experience of end users – whether that is through higher levels of illumination to improve visibility and safety, or maximising productivity in a school or office setting.

# 5. Who should submit an idea?

PRO-LITE partners ask that:

- organisations that can supply a lighting solution that will meet the specified lighting requirements (as outlined in Section 3); and,
- organisations willing to provide information that will enable PRO-LITE partners to more comprehensively define their requirements respond to this consultation.

These organisations might include:

- Lighting Manufacturers
- Lighting Suppliers
- Lighting Innovators
- Lighting Specialists
- Industry Thought Leaders
- Private sector organisations

# 6. PRO-LITE Procurements

### 5.1 City of Torino Lighting procurement

Estimated Cost for all three renovations	€ 750,000
Timing	Procurement process: September – December 2014 Installation: January – December 2015
Information last updated	24 <sup>th</sup> February 2014
End of this consultation	31 <sup>st</sup> July 2014

The City of Torino aims to identify innovative lighting solutions that will facilitate better use of school buildings (e.g. classrooms, common areas, other educational spaces, gyms, etc). Suppliers are asked to make submissions via <u>PRO-LITE's Online Submission Tool</u> detailing their innovative lighting solutions. Some of the specific requirements to consider before making a submission are as follows:

- the solutions must be 'Energy Saving' throughout the duration of its use;
- the lighting solutions must be compatible with control and monitoring systems (i.e. compatible with computer software and hardware);
- the monitoring systems must be compatible with Wi-Fi technologies;
- the systems must be easy to maintain & manage, and 'user friendly'.

We expect information on the innovative lighting solution submitted through PRO-LITE's Online Submission Tool to state how it will contribute to improved energy efficiency; how it can be controlled through sensor systems (for example, presence detection, other detectors); and how they might be combined with natural (sun) light to deliver the desired levels of illumination.

The innovative system proposed must integrate well with other technologies commonly found in public buildings (e.g. smoke detectors and other alarms, CCTV, etc.) in order to optimise energy management and efficiency.

In February 2014, the City of Torino published a <u>Prior Information Notice (PIN) in the Official</u> <u>Journal of the European Union (OJEU)</u> – outlining the key elements of its future tender.

In summary, three school buildings in the City of Torino will be renovated with improved and innovative lighting solutions as part of the tender. Sections 5.2.1 through 5.2.3 provide detailed information on the three schools in question, namely:

- Primary School Dal Piaz, c.so D'Albertis 22 (Section 5.1.2)
- Primary school Parri, strada di Lanzo 147/11 (Section 5.1.3)
- Secondary school Via Revel, c.so Matterotti 9 (Section 5.1.4)

## 5.1.2 Current status of lighting at Primary school Dal Piaz



### Primary school Dal Piaz, c.so D'Albertis 22

#### Energy Consumption of Primary school Dal Piaz in 2011 and 2012

	Year	
Month	2011	2012
	Kilowatt-hours	
January	5.318	6.128
February	5.887	5.839
March	5.488	5.299
April	7.872	4.366
Мау	3.719	3.936
June	2.689	2.612
July	2.160	1.760
August	1.899	1.770
September	3.143	3.243
October	4.629	5.880
November	5.635	5.870
December	5.615	5.990

Building Purpose and Users	Primary school hosting educational activities for students aged 6 to 11 (346 students and 34 teachers)	
Year of Building Construction	1964	
School (main floor area)	3046 square meters	
Number of Floors	3 in total (2 above ground and 1 below)	
Gymnasium	Yes	
Canteen	Yes	
General description	<ul> <li>The electrical systems (for the most part) date back to the mid to late 1980s</li> <li>Lighting systems date back to the late 1980s.</li> <li>The switchboards have never been overhauled and they also date back to the late 1980s.</li> <li>The electrical protections are dated but still efficient.</li> <li>In general, all devices are almost near the end of their useful life.</li> <li>The lighting levels (just enough for the intended uses) are generated by obsolete equipment and inefficient.</li> <li>The emergency lighting devices are installed throughout the entire school and deliver sufficient levels of illumination in the event of an emergency.</li> </ul>	
Technical description of current lighting in place	<ul> <li>Fluorescent lighting devices (tube size 40 mm) with ferromagnetic ballasts and starter technology</li> <li>Lighting cannot be 'dimmed' or brightened to meet the changing need of occupants, and are not well supplemented with daylight</li> <li>Diffusing screens made of methacrylate</li> <li>Emergency lighting is managed through independent devices powered with Nickel-Cadmium batteries and fluorescent technologies</li> <li>Fire alarm activated either manually or via smoke detectors (mains powered)</li> </ul>	

### Summary of key Building Features

### 5.1.3 Current status of lighting at Primary school Parri

Primary school Parri, strada di Lanzo 147/11



#### Energy Consumption of Primary school Parri, strada di Lanzo 147/11

	Year	
Month	2011	2012
	Kilowatt-hours	
January	7.720	7.729
February	6.895	6.196
March	6.915	6.525
April	5.190	5.789
Мау	4.234	4.581
June	3.925	3.313
July	2.547	2.914
August	2.497	2.914
September	4.550	2.820
October	6.624	6.346
November	7.385	6.484
December	6.725	7.034

Building Purpose and Users	Primary school hosting educational activities for students aged 6 to11 (233 students and 29 teachers)
Year of Building Construction	1981
School (main floor area)	5707 square meters
Number of Floors	5 in total (4 above ground and 1 below)
Gymnasium	Yes
Canteen	Yes
General description	<ul> <li>Most facilities date back to the 1980s</li> <li>Switchboards were replaced between 1996 -1998 and are equipped with the latest circuit breakers and differentials</li> <li>New wirings for the main power circuits were placed in industrial high strength metal channels, with considerable headroom</li> <li>The lighting systems date back to the late 1980s</li> <li>Its "tachistart" technology was innovative at the time but is no longer in production and difficult to find on the open market</li> <li>Lighting is generated by obsolete equipment at poor levels of energy efficiency</li> <li>The automated operation of emergency lighting is compliant with the requirements as defined by national legislation. The equipment however is fluorescent based and of an old design.</li> </ul>
Technical description of current lighting in place	<ul> <li>40mm fluorescent tubes with "tachistart" technology</li> <li>Lighting cannot be 'dimmed' or brightened to meet the changing need of occupants, and are not well supplemented with daylight</li> <li>The diffusing screens are made of methacrylate.</li> <li>Emergency lighting is managed through independent devices powered with Nickel-Cadmium batteries.</li> <li>There is a manual &amp; automatic fire detection system in place</li> </ul>

### Summary of relevant Building Features

### 5.1.4 Current status of lighting at Secondary school Via Revel



#### Secondary school Via Revel, c.so Matteotti 9

#### Energy Consumption of Secondary school Via Revel, c.so Matteotti 9

Month	Year	
	2011	2012
	Kilowatt-hours	
January	2.640	2.582
February	2.569	2.814
March	2.596	2.672
April	1.650	2.090
Мау	1.584	1.741
June	898	1.021
July	557	623
August	453	519
September	1.355	2.014
October	2.068	4.355
November	2.576	2.371
December	2.366	2.393

Building Purpose and Users	Secondary school hosting educational activities for students aged 11 to 14 (226 students and 28 teachers)	
Year of Building Construction	1874	
School (main floor area)	2533 square meters	
Number of Floors	4 in total (3 above ground and 1 below)	
Gymnasium	Yes	
Canteen	No	
General description	<ul> <li>The electrical wiring, switchboards, fire alarms and other electrical components were replaced at different times between 1981 &amp; 1989</li> <li>Electrical equipment is in working order but reaching end of life</li> <li>Obsolete or soon to be obsolete lighting devices continue to provide sufficient lighting levels, but are far from 'energy efficient'</li> <li>Lighting cannot be 'dimmed' or brightened to meet the changing need of occupants, and are not well supplemented with daylight</li> <li>Emergency lighting is provided using fluorescent bulbs and other supporting devices</li> </ul>	
Technical description of technologies currently in use	<ul> <li>Fluorescent tubes (40mm) with ferromagnetic ballasts and starters</li> <li>Diffusing screens made of methacrylate or laminated aluminium</li> <li>Emergency lights are powered by Nickel-Cadmium batteries</li> <li>Fire alarm activated either manually or via smoke detectors (mains powered)</li> </ul>	

### Summary of relevant Building Features

# 7. Making a Submission

PRO-LITE partners have designed and launched a bespoke online submission tool – which allows users to submit ideas on innovative lighting solutions that will meet the requirements of the European Public Authorities involved in the PRO-LITE project. All interested users should submit their ideas, suggestions and solutions directly through the online submission tool, where responses will be viewed by all PRO-LITE partner organisations.

Please visit the PRO-LITE website to find out more information about the project and make a submission

www.prolitepartnership.eu