Advanced Sensing for Urban Automation
Business Impact

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Project Info & Consortium

**Start Date:** January 2015  
**End Date:** December 2017  
**Budget (total):** 5302 K€  
**Effort:** 58.8 PY  

- **Netcad**, Turkey  
- **Beia Consult International**, Romania  
- **Geodata Ziviltechnikergesellschaft mbH**, Austria  
- **Montanuniversitat Leoben**, Austria  
- **Katholieke Universiteit Leuven**, Belgium  
- **Televic Healthcare NV**, Belgium  
- **Innovati Networks S.L.**, Spain  
- **Karel Elektronik San. ve Tic. A.S.**, Turkey

[http://asua.netcad.com](http://asua.netcad.com)  
[https://www.youtube.com/watch?v=Txcun0iHv-A](https://www.youtube.com/watch?v=Txcun0iHv-A)
Scope

Problem Definition
• Network infrastructure complexity
• Interoperability
• Resource and energy constraints

Results
• Urban Automation Reference Platform
• Abstraction of sensor, network and server layers
• Standards based communication between layers
• Deep sleep/auto wake up functionality on gateways and sensors.
• BLE mesh network is developed.
• LoRa supported gateways
• Rule based SNMP protocol to reduce data transmission load
## Business Impact - Cumulative

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Products / Services</td>
<td>11</td>
</tr>
<tr>
<td>Sales</td>
<td>25</td>
</tr>
<tr>
<td>Euros</td>
<td>1.1M + Undeclared</td>
</tr>
<tr>
<td>Jobs</td>
<td>31</td>
</tr>
</tbody>
</table>

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Business Impact - GEODATA

- # of products created by ASUA
  - 1 smart gateway (UrbMics box)
  - 1 WSN mesh network (UrbMics WSN)
  - 1 Information and control center (UrbMics center)
  - 4 for related services (installation, training, maintenance and support)

- # of sales so far
  - 17 major tunnel projects
  - Sensors, gateways, SW licenses + related services

- # of jobs created by ASUA
  - 5 jobs at Geodata head office (1 product owner, 1 automation engineer, 1 sw developer, 1 data scientist, 1 member of support team)
  - 11 jobs at tunnel projects (onsite IT experts)

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Business Impact - GEODATA

UrbMICS - Urban Monitoring Information & Control System

3 ASUA products were developed + related services

1. UrbMICS box
   Smart gateway for tunnel monitoring

2. UrbMICS WSN
   Mesh WSN for tunnel monitoring data transfer

3. UrbMICS center (KRONOS)
   IoT platform for tunnel data management & system control

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Business Impact - KAREL

- Products created based on ASUA experience and assets
  - 1 service for smart city telemetry

- # of sales
  - 1 Customers (~120K Euro)

- # of jobs created by ASUA
  - 2 (1 senior)

- More info
Business Impact - BEIA

- Products created based on ASUA experience and assets
  - 1 service for smart city telemetry

- # of sales
  - 2 Customers (~100K Euro each)

- # of jobs created by ASUA
  - 2 (1 junior and 1 senior)

- More info
  - www.beiaro.eu/asua
Business Impact - EXPERIS

- Number of products created by ASUA:
  - Rules Engine for Network Elements Monitoring, integrated in our Network Monitoring Solutions

- # of sales so far
  - 2 clients, 300k each

- # of jobs created by ASUA:
  - 3 (2 juniors and 1 senior)
Business Impact - NETCAD

• Products created based on ASUA experience and assets
  • 1 solution family

• # of sales
  • 3 customers (~200K Euro)

• # of jobs created by ASUA
  • 8 (a new smart city solutions department)

• 3 patents claimed

• 1 new smart city project
  • Submitted and labelled (CelticNext)