



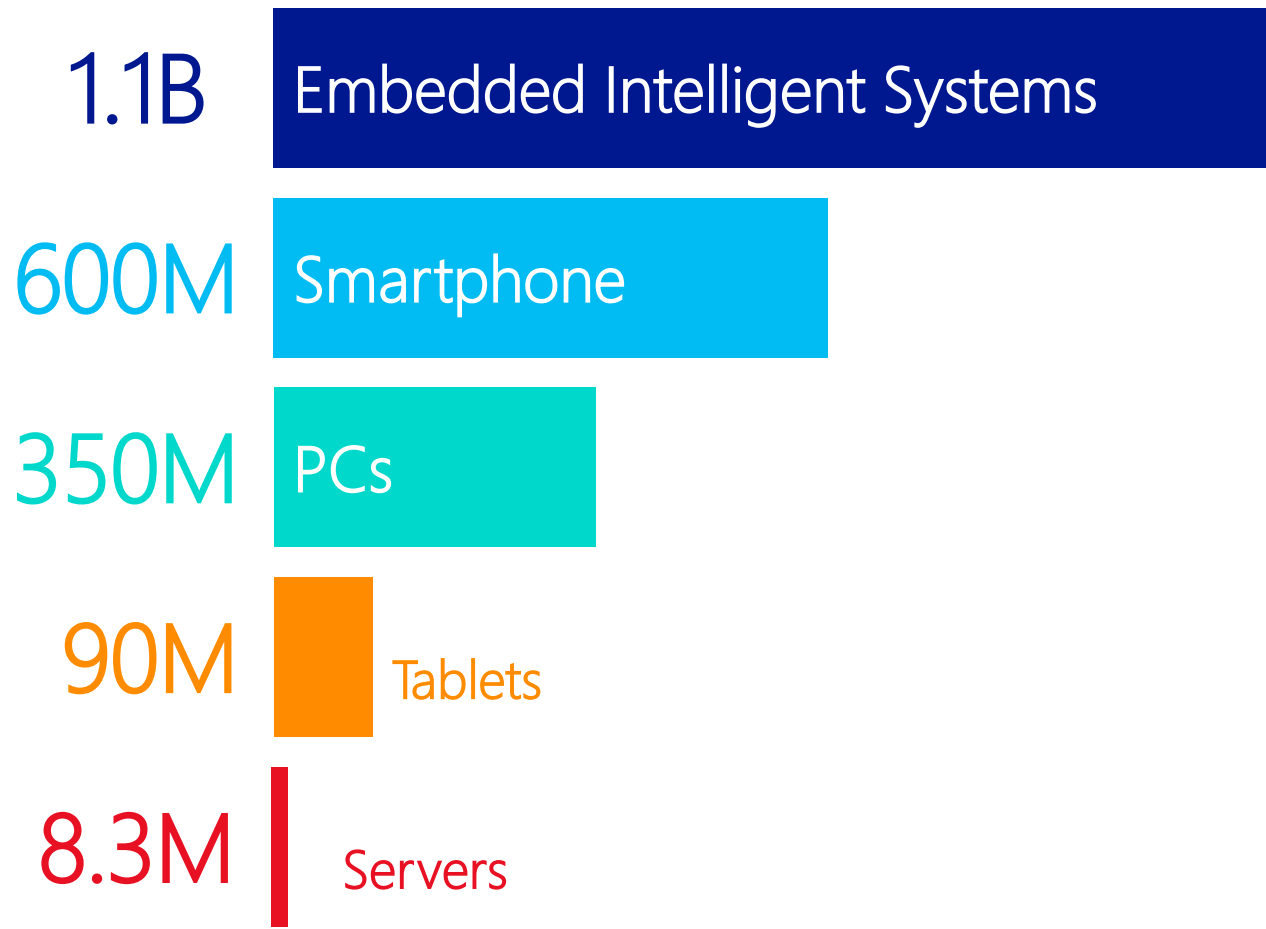
M2M Forum

Introducing Intelligent Systems

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Market Momentum, by the Numbers



6 Billion

Current size of the total embedded market

9.6 Billion

Forecasted market size by 2016 (10% CAGR)

1.1 Billion

Current size of the intelligent systems market

2.6 Billion

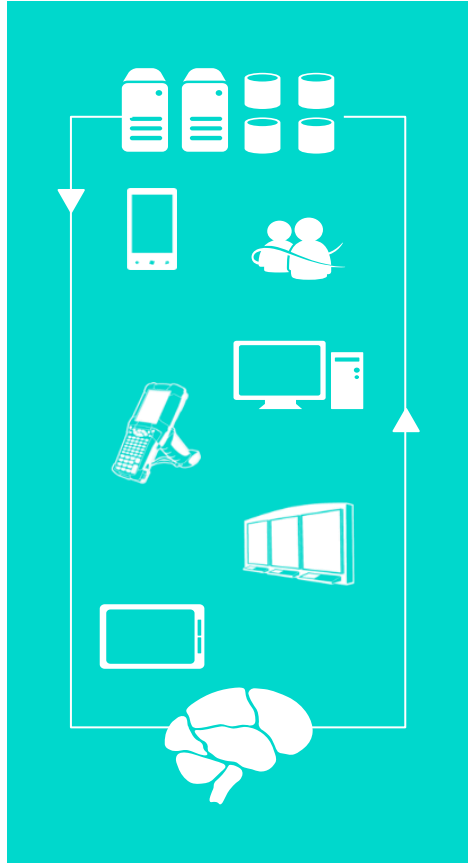
Forecasted market size by 2016 (19% CAGR)

Technological Trends Driving Change

- ▶ Connectivity
- ▶ Computing power
- ▶ Big data
- ▶ Human Interactivity
- ▶ Security



Birth of the Intelligent System



Intelligent Systems

An intelligent system enables **data** to flow across an enterprise infrastructure, spanning the **devices** where valuable data is gathered from employees and customers, to the **back-end** systems where that data can be **translated** into insights and **action**.

Industrial Automation

I N T E L L I G E N T S Y S T E M S I N A C T I O N

CHALLENGE

Giletta, a leading winter-services-equipment manufacturer in Italy, partnered with the European Commission to create an **intelligent road de-icing** system that receives weather information from Galileo satellites to conserve natural resources and cut costs that can fluctuate between **60 and 100 euros** per ton of salt

SOLUTION

Partner with the Microsoft® Innovation Center of Torino and equipment manufacturer Giletta SpA to build an intelligent de-icing solution that **continually compares** a truck's salt output against the actual need of the road itself, based on Windows® Embedded CE, Windows Azure™, and Galileo satellites

BENEFITS

- Easy-to-use **touch screen** monitoring system
- Cuts salt consumption by **30%**
- LOB application built on Windows Azure™ can either be hosting **on-premises** or in the **cloud**
- **Increased sales to 1500 trucks** annually

GILETTA

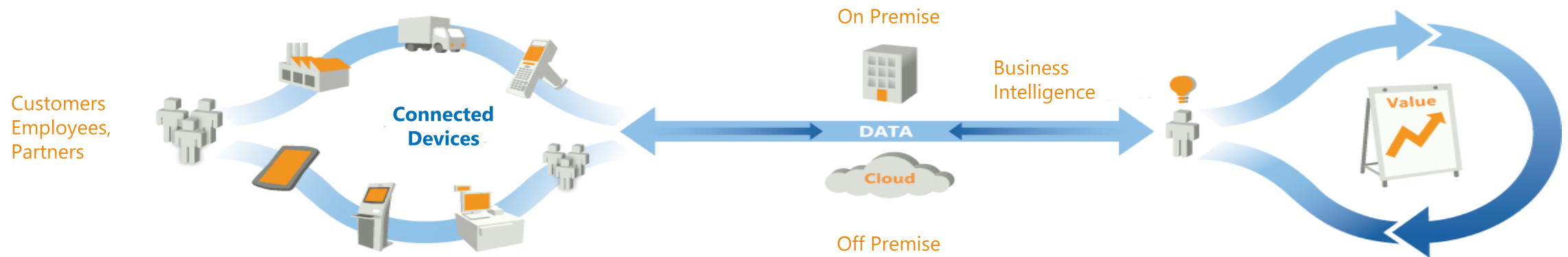

**Windows
Embedded**



[GILETTA SPA](#)

Creating Business Value

The Power of an Intelligent System



Dramatic Change in Data Processing

Data

becomes the
new currency





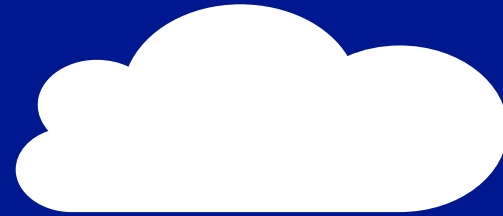
Microsoft Embedded Strategy

Microsoft's Approach

Immersive Experiences























Connected by the Cloud



Across A World of Smart Devices



Microsoft – One Platform for Intelligent Systems

<p>Analytics</p> 	   
<p>User Experience</p> 	  
<p>Manageability</p> 	  
<p>Connectivity</p> 	 <p>Microsoft Remote Desktop Protocol (RDP)</p> <p>Windows Server Direct Access</p>
<p>Security</p> 	 <p>BitLocker Drive Encryption</p>
<p>Identity</p> 	 

Summary

- ▶ **Dramatic change in data & devices**
- ▶ **Intelligent Systems growing**
- ▶ **Microsoft offers an end-to-end solution from the device to the cloud**
- ▶ **Windows Embedded offers a full range of solutions for your devices**
- ▶ **We want to partner with you**

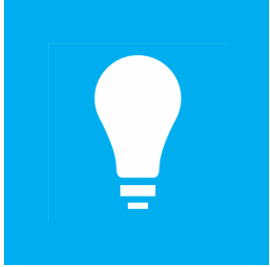


Enercloud

An energy Management and Decision Support System for the PA



Needs and Goals



Energy management is generally not very efficient, usually due to lack of information



PAs and SMEs needs to reduce and optimize energy costs by understanding how energy is used



Processes and technologies can be improved by means of an advanced use of ICT technologies



Environmental preservation thanks to the general energy usage reduction

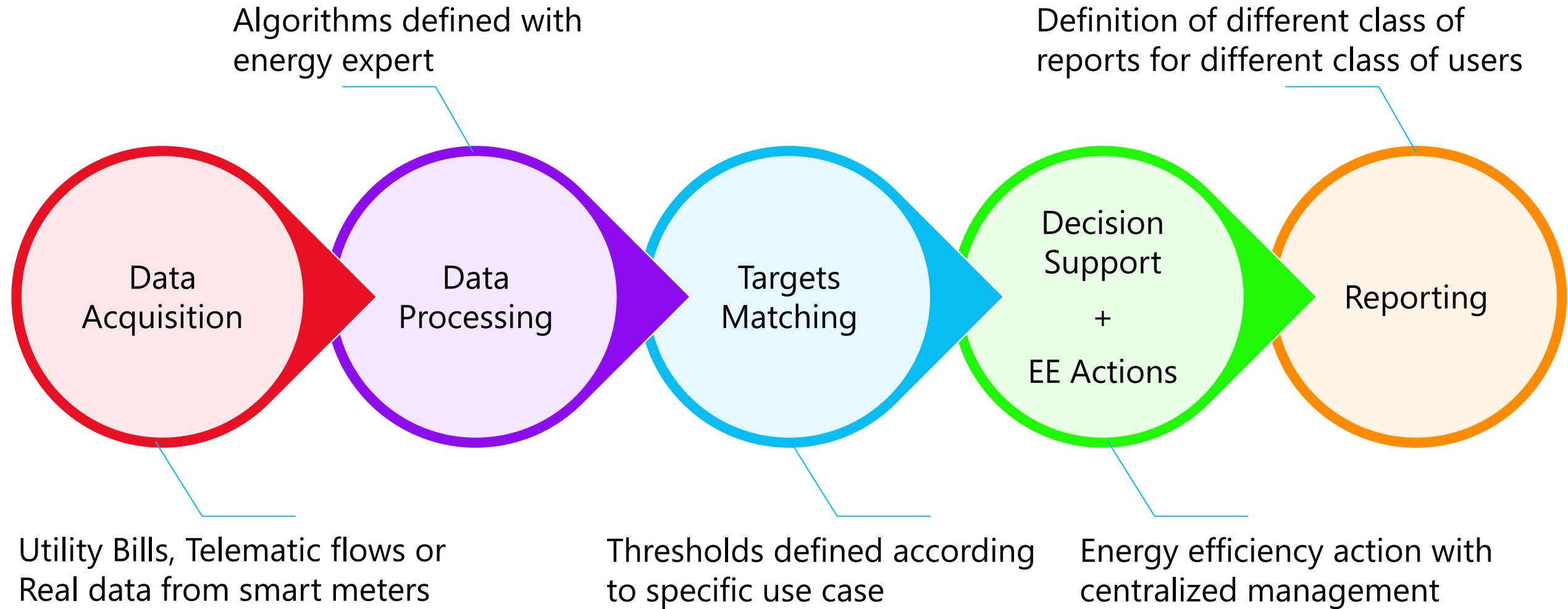


Innovation and standardization, through modern technology trends and centralized analysis



Data collection and analysis on cloud services, assistance to decision making and operations planning

The process



Example of reports


Caratteristiche e dati caratteristici dell'Edificio		Categoria		Spesa unitaria annuale (€/kWh)		
Nome	Biblioteca	Fascia Climatica	E	Anno	2009	0,3604
Indirizzo	via Capoluogo, 16	Superficie (mq)	63,00	Anno	2010	0,3287
Comune	Buttigiera Alta (TO)	Tipo Impianto	COMB	Anno	2011	0,0000


Dettaglio Forniture Energia Elettrica				
POD	Indirizzo Fornitura	Comune	Potenza max (kW)	Tipo Fornitura
IT001E05022859	via Capoluogo, 16	Buttigiera Alta (TO)	3	BASSAMULTI


Riepilogo Annuale Edificio										
2011	Consumi (kWh)	Consumo (kWh/mq)	Target (kWh/mq)	Target +15%	Target +30%	Spesa per eccesso cons.	Consumo F1	Consumo F2+F3	Indice N/F	
gen	150,00	2,38	2,81	3,23	3,65	€ 0,00	101,00	49,00	0,49	
feb	168,00	2,67	2,56	2,94	3,33	€ 0,00	117,00	51,00	0,44	
mar	154,00	2,44	2,36	2,71	3,07	€ 0,00	111,00	43,00	0,39	
apr	67,00	1,06	2,16	2,48	2,81	€ 0,00	38,00	29,00	0,76	
mag	59,00	0,94	1,81	2,08	2,35	€ 0,00	38,00	21,00	0,55	
giu	75,00	1,19	1,45	1,67	1,89	€ 0,00	48,00	27,00	0,56	
lug	250,00	3,97	1,14	1,31	1,48	€ 0,00	106,00	144,00	1,36	
ago	301,00	4,78	0,78	0,90	1,01	€ 0,00	105,00	196,00	1,87	
set	157,00	2,49	1,24	1,43	1,61	€ 0,00	72,00	85,00	1,18	
ott	132,00	2,10	1,81	2,08	2,35	€ 0,00	66,00	66,00	1,00	
nov	93,00	1,48	2,46	2,83	3,20	€ 0,00	35,00	58,00	1,66	
dic	152,00	2,41	2,81	3,23	3,65	€ 0,00	52,00	100,00	1,92	
Totale	1.758,00	27,90	23,39	26,90	30,41	€ 0,00				

2010	Consumi (kWh)	Consumo (kWh/mq)	Target (kWh/mq)	Target +15%	Target +30%	Spesa per eccesso cons.
gen	195,00	3,10	2,81	3,23	3,65	€ 0,00
feb	118,00	1,87	2,56	2,94	3,33	€ 0,00
mar	99,00	1,57	2,36	2,71	3,07	€ 0,00
apr	89,00	1,41	2,16	2,48	2,81	€ 0,00
mag	79,00	1,25	1,81	2,08	2,35	€ 0,00
giu	61,00	0,97	1,45	1,67	1,89	€ 0,00
lug	115,00	1,83	1,14	1,31	1,48	€ 10,65
ago	71,00	1,13	0,78	0,90	1,01	€ 4,76
set	162,00	2,57	1,24	1,43	1,61	€ 23,72
ott	162,00	2,57	1,81	2,08	2,35	€ 10,14
nov	266,00	4,22	2,46	2,83	3,20	€ 28,85
dic	126,00	2,00	2,81	3,23	3,65	€ 0,00
Totale	1.543,00	24,49	23,39	26,90	30,41	€ 78,13



 I consumi attendibili superano in almeno un mese il target +30%

 I consumi attendibili superano in almeno un mese il target +15% ma non superano in nessun mese il target +30%

 I consumi attendibili non superano il target +15% in nessun mese

2009	Consumi (kWh)	Consumo (kWh/mq)	Target (kWh/mq)	Target +15%	Target +30%	Spesa per eccesso cons.
gen	141,00	2,24	2,81	3,23	3,65	€ 0,00
feb	104,00	1,65	2,56	2,94	3,33	€ 0,00
mar	101,00	1,60	2,36	2,71	3,07	€ 0,00
apr	74,00	1,17	2,16	2,48	2,81	€ 0,00
mag	58,00	0,92	1,81	2,08	2,35	€ 0,00
giu	42,00	0,67	1,45	1,67	1,89	€ 0,00
lug	44,00	0,70	1,14	1,31	1,48	€ 0,00


Caratteristiche e dati caratteristici dell'Edificio		Categoria		Spesa unitaria annuale (€/kWh)		
Nome	Centro Sociale	Fascia Climatica	E	Anno	2009	0,2581
Indirizzo	corso Susa, 2	Superficie (mq)	452,00	Anno	2010	0,2651
Comune	Buttigiera Alta (TO)	Tipo Impianto	COMB	Anno	2011	0,2193


Dettaglio Forniture Energia Elettrica				
POD	Indirizzo Fornitura	Comune	Potenza max (kW)	Tipo Fornitura
IT001E01534870	corso Susa, 2	Buttigiera Alta (TO)	8	BASSAMULTI


Riepilogo Annuale Edificio										
2011	Consumi (kWh)	Consumo (kWh/mq)	Target (kWh/mq)	Target +15%	Target +30%	Spesa per eccesso cons.	Consumo F1	Consumo F2+F3	Indice N/F	
gen	766,00	1,69	2,81	3,23	3,65	€ 0,00	309,00	457,00	1,48	
feb	423,00	0,94	2,56	2,94	3,33	€ 0,00	206,00	217,00	1,05	
mar	421,00	0,93	2,36	2,71	3,07	€ 0,00	206,00	215,00	1,04	
apr	303,00	0,67	2,16	2,48	2,81	€ 0,00	128,00	175,00	1,37	
mag	309,00	0,68	1,81	2,08	2,35	€ 0,00	142,00	167,00	1,18	
giu	207,00	0,46	1,45	1,67	1,89	€ 0,00	91,00	116,00	1,27	
lug	138,00	0,31	1,14	1,31	1,48	€ 0,00	58,00	80,00	1,38	
ago	199,00	0,44	0,78	0,90	1,01	€ 0,00	55,00	84,00	1,53	
set	139,00	0,31	1,24	1,43	1,61	€ 0,00	79,00	120,00	1,52	
giu	138,00	0,31	1,24	1,43	1,61	€ 0,00	79,00	120,00	1,52	
lug	138,00	0,31	1,24	1,43	1,61	€ 0,00	79,00	120,00	1,52	
ago	199,00	0,44	1,81	2,08	2,35	€ 0,00	102,00	157,00	1,54	
set	199,00	0,44	1,81	2,08	2,35	€ 0,00	102,00	157,00	1,54	
ott	269,00	0,57	2,46	2,83	3,20	€ 0,00	219,00	229,00	1,05	
nov	448,00	0,99	2,81	3,23	3,65	€ 0,00	122,00	238,00	1,95	
dic	360,00	0,80	2,39	26,90	30,41	€ 0,00				
Totale	3.972,00	8,79	23,39	26,90	30,41	€ 0,00				

2010	Consumi (kWh)	Consumo (kWh/mq)	Target (kWh/mq)	Target +15%	Target +30%	Spesa per eccesso cons.
gen	588,00	1,30	2,81	3,23	3,65	€ 0,00
feb	514,00	1,14	2,56	2,94	3,33	€ 0,00
mar	505,00	1,12	2,36	2,71	3,07	€ 0,00
apr	336,00	0,74	2,16	2,48	2,81	€ 0,00
mag	289,00	0,64	1,81	2,08	2,35	€ 0,00
giu	181,00	0,40	1,45	1,67	1,89	€ 0,00
lug	77,00	0,17	1,14	1,31	1,48	€ 0,00
ago	72,00	0,16	0,78	0,90	1,01	€ 0,00
set	289,00	0,64	1,24	1,43	1,61	€ 0,00
ott	289,00	0,64	1,81	2,08	2,35	€ 0,00
nov	543,00	1,20	2,46	2,83	3,20	€ 0,00
dic	632,00	1,40	2,81	3,23	3,65	€ 0,00
Totale	4.315,00	9,55	23,39	26,90	30,41	€ 0,00



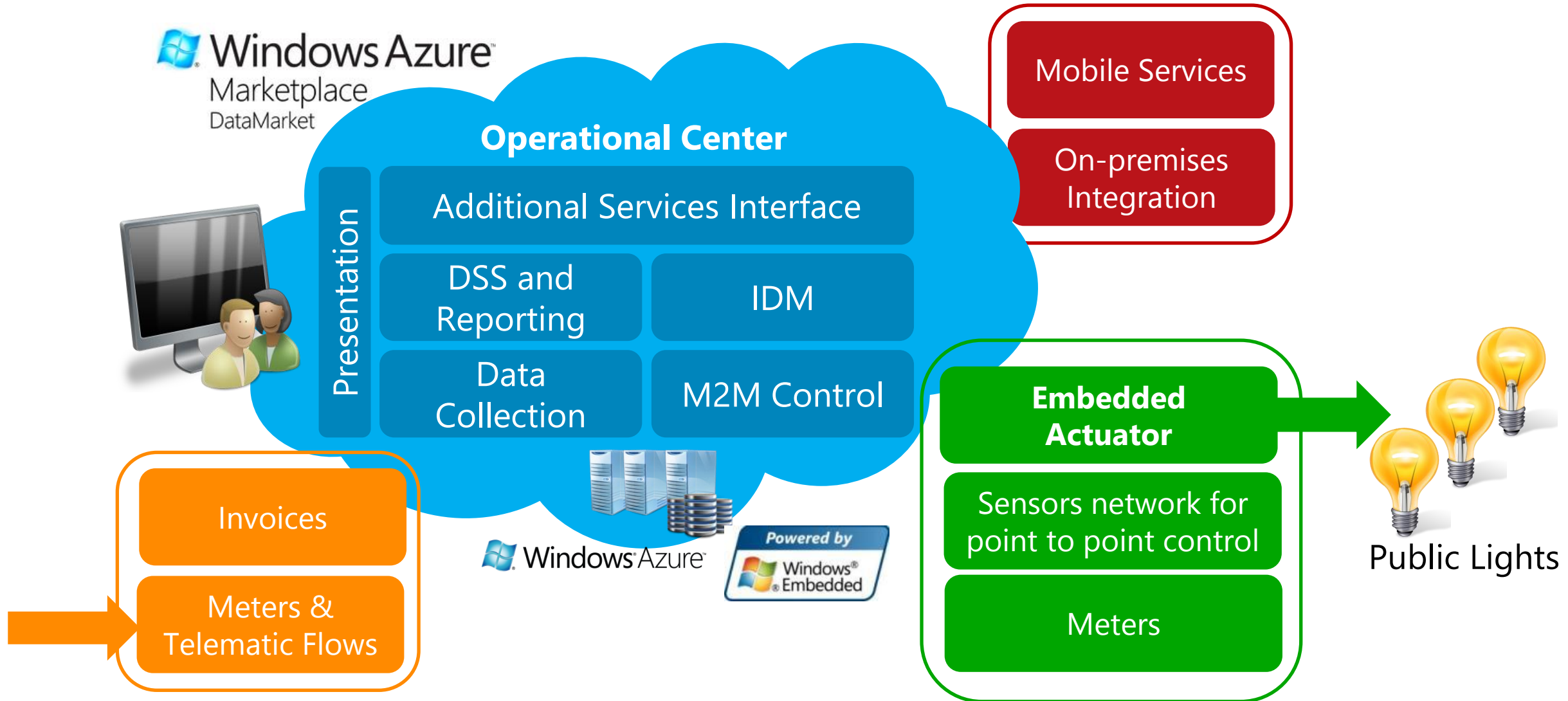
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 I consumi attendibili non superano il target +15% in nessun mese

2009	Consumi (kWh)	Consumo (kWh/mq)	Target (kWh/mq)	Target +15%	Target +30%	Spesa per eccesso cons.
gen	595,00	1,32	2,81	3,23	3,65	€ 0,00
feb	542,00	1,20	2,56	2,94	3,33	€ 0,00
mar	372,00	0,82	2,36	2,71	3,07	€ 0,00
apr	285,00	0,63	2,16	2,48	2,81	€ 0,00
mag	336,00	0,74	1,81	2,08	2,35	€ 0,00

Overall System Architecture and Evolutions



Pilots Projects and Results



Info collection
and aggregation



Flexible and
secure
service



Low cost
embedded
terminals



from CAPEX to
OPEX



Pilot project
running since
June 2011



15% savings on
street lighting
in pilot project

- More than 20 cities tests the energy monitoring system directly using the SaaS platform
- 1 pilot site running a full solution with energy monitoring and a street lighting management
 - ✓ small municipality (pop. 7000)
 - ✓ 700 street lights over 35 lines
 - ✓ Street lighting cost of about 100K€