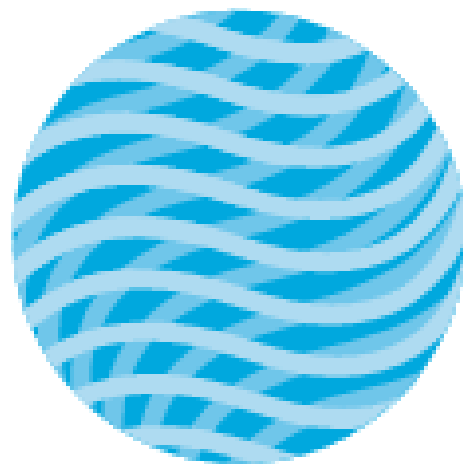


KIC LED bulb

LED bulb industries.

Initial Pitch Presentation



KIC LED bulb

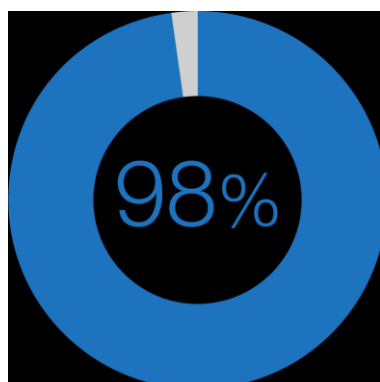
bringing new light

Value Proposition

Energy efficient, state of the art LED light bulb.

Unique Selling Point







By utilizing laser soldering our LED bulbs have the lowest failure rate and highest efficiency.

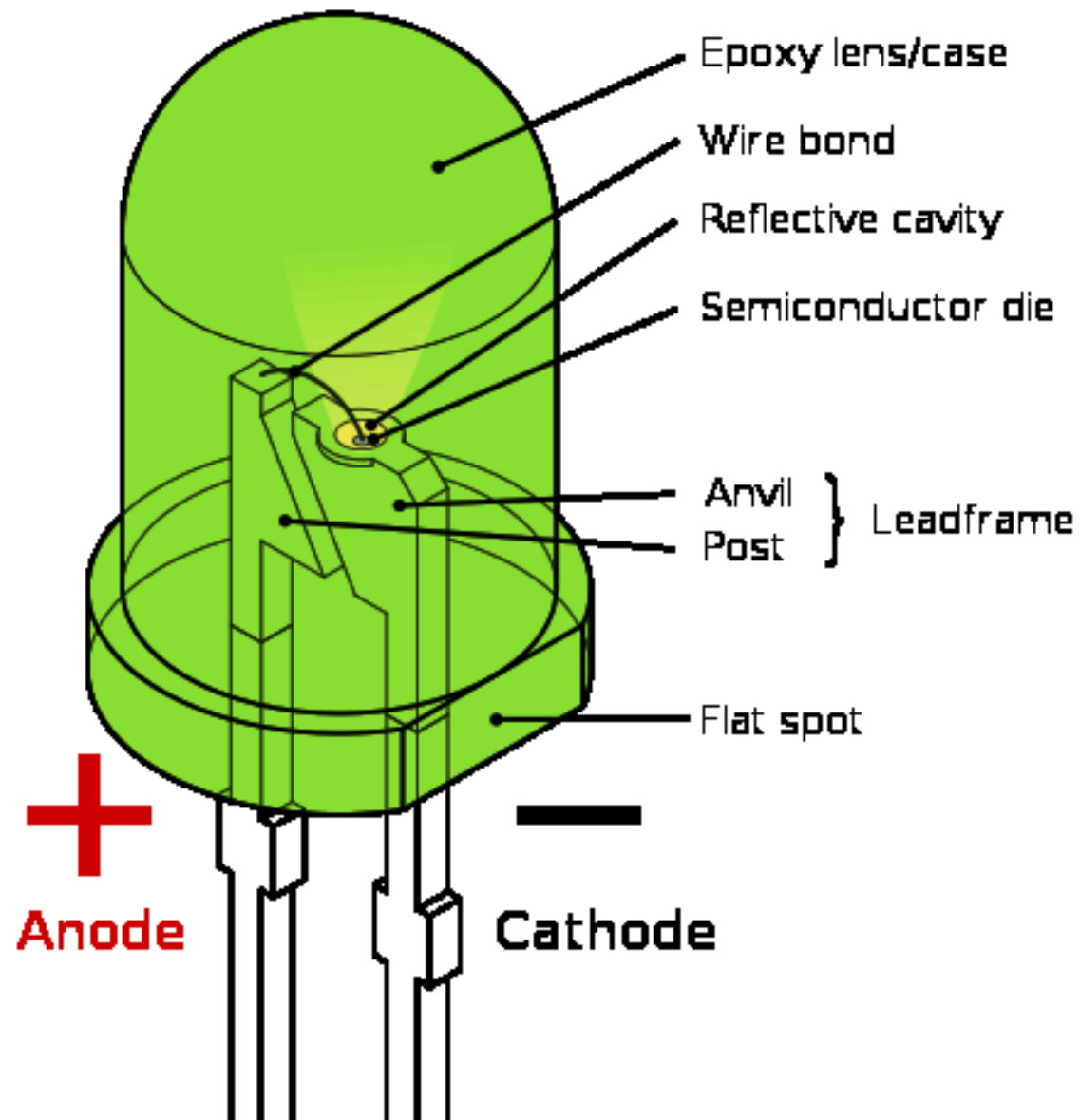


overall
efficiency



- KIC LED - the most **energy efficient LED bulb**.
- Project goal - develop a **family of LED bulbs**.
- Total Addressable Market - 208 M EUR/year.
- KIC LED bulb provides **over 150 EUR savings** per 10 year operating period.
- KIC LED team – **12 implemented projects;** **10 M EUR generated revenue.**

Criterion	Criterion met	Comment
1 The Technology is in the priorities in one of the 8 Thematic Fields of Sustainable Energy		 Energy efficiency.
2 Compliance with key KIC goals.		Decreasing energy cost
3 Equivalent product not available in EU.		LED bulb with such features is not available in EU market.
4 Defined product or service		Fully operational prototype is developed.
5 Time to market is less than 5 years		We are few steps before mass production.



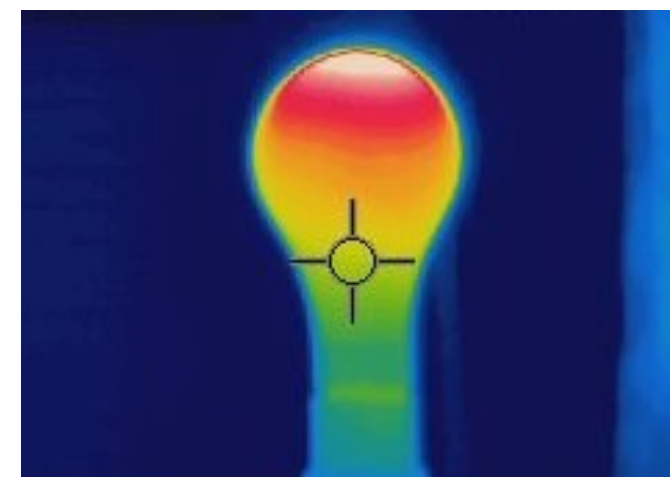
- Silicon semiconductor emits a monochromatic light.
- Junction allows the current to pass in a forward biased direction.
- Electrons pass through crystals and fill holes.
- Electrons emit photons (light).



LEDs convert electrical energy into light energy.

What is the problem or need?

- High energy prices.
- Low efficiency of classical bulbs (~3%).
- High failure rate of classical bulbs.
- Heat emitted by bulbs.



Heat distribution in a classical bulb

19% of electricity produced worldwide is consumed by lighting installations.

455 EUR/year

Is a typical electricity bill for a standard household - considering using 10 classical bulbs.

Who faces the problem?



Offices



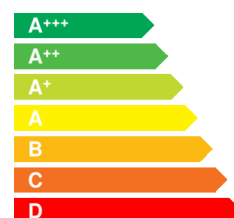
Households



Inconvenience



Operating cost



Inefficiency

Costs of problem

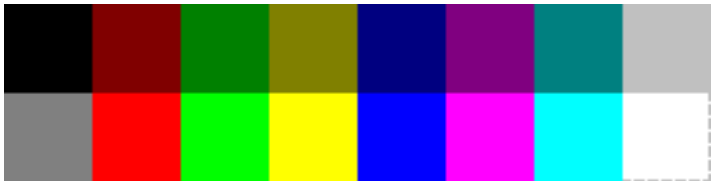


Future development

Full company name	KIC LED
Venture stage	Prototype
Creation date	1961
Number of employees	12
Ownership structure	Limited Liability Company (LLC)
Acquired investors	Texas Instruments - €120k Norwest Venture Partners - €880k
Acquired external funding	SME Instrument - €500k
LFY turnover	€1.3m

Our goal is to develop a full family of products.

Power range: 1 – 60 W
Color range: at least 16 colors



Future color palette

General product characteristics:

Class: **A++**

Certificate: **CE**

Cost of manufacturing: **7 EUR**

Market Price: **~15 EUR**

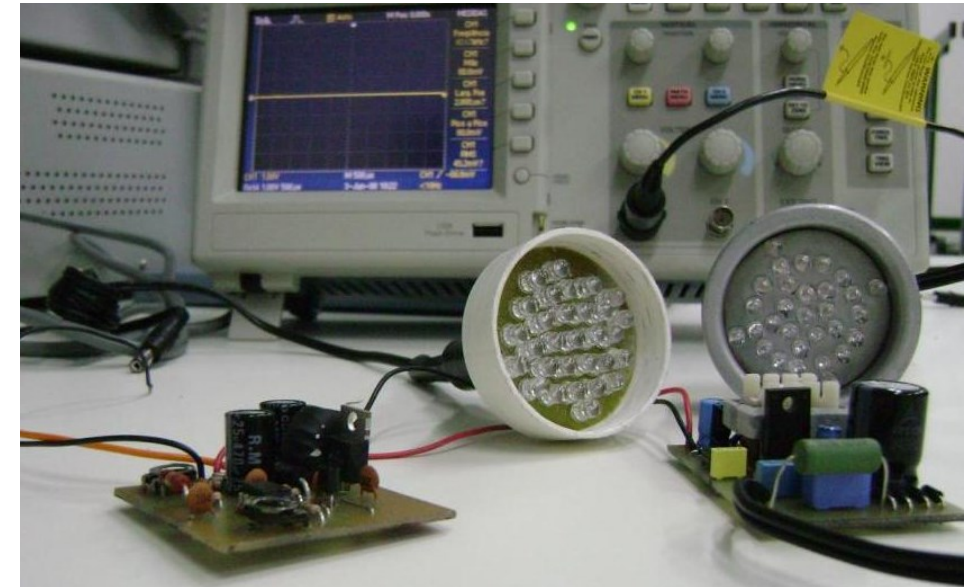


Socket type	E27 (standard)
Light type	Warm white (2700-3300K) 1600lm
Voltage	230V, 50Hz
Power consumption	20W
Equivalent in standard bulb power	~100W
Lifetime	Up to 50 000h (~6 years of constant light)



The prototype

- Completed prototype testing in a high-fidelity laboratory environment.
- Test and demonstration of the KIC LED Bulb in operational environment scheduled next month.

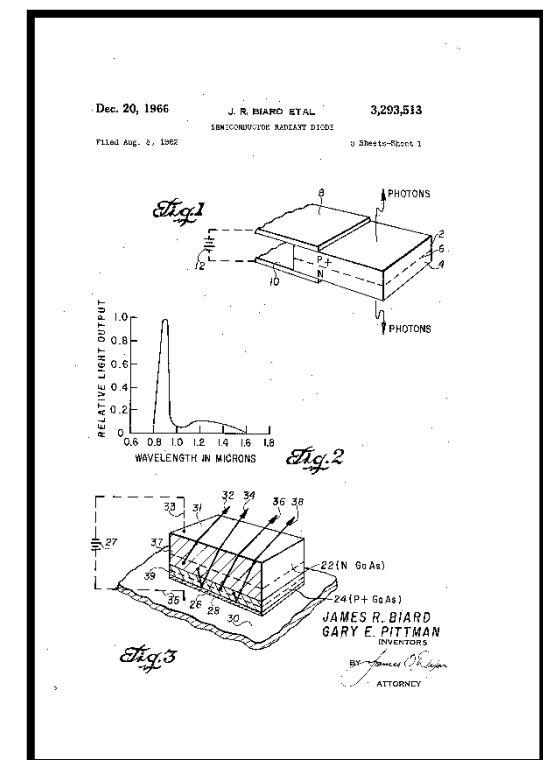


Intellectual Property

August 8, 2013, James Biard and Gary Pittman - 50/50 ownership - GaAs Infrared (IR) light-emitting diode (EU3293513).

Future protection mechanisms:

- IPR
- control over complementary assets (heat shedding and dissipation mechanisms)





Value Proposition

- **Energy efficient, state of the art LED light bulb.**
- We foresee expansion of product family to over 20 products varying in power, light type and resistance to specific working conditions.



Unique Selling Point

- **Value for money – extremely efficient and reliable LED lightbulb which is affordable, well designed and durable.**
- By utilizing laser soldering our LED bulbs are cheaper to manufacture and have the lowest failure rate when compared to bulbs on the market (99,8% of tested bulbs proven to work over 50 000h)

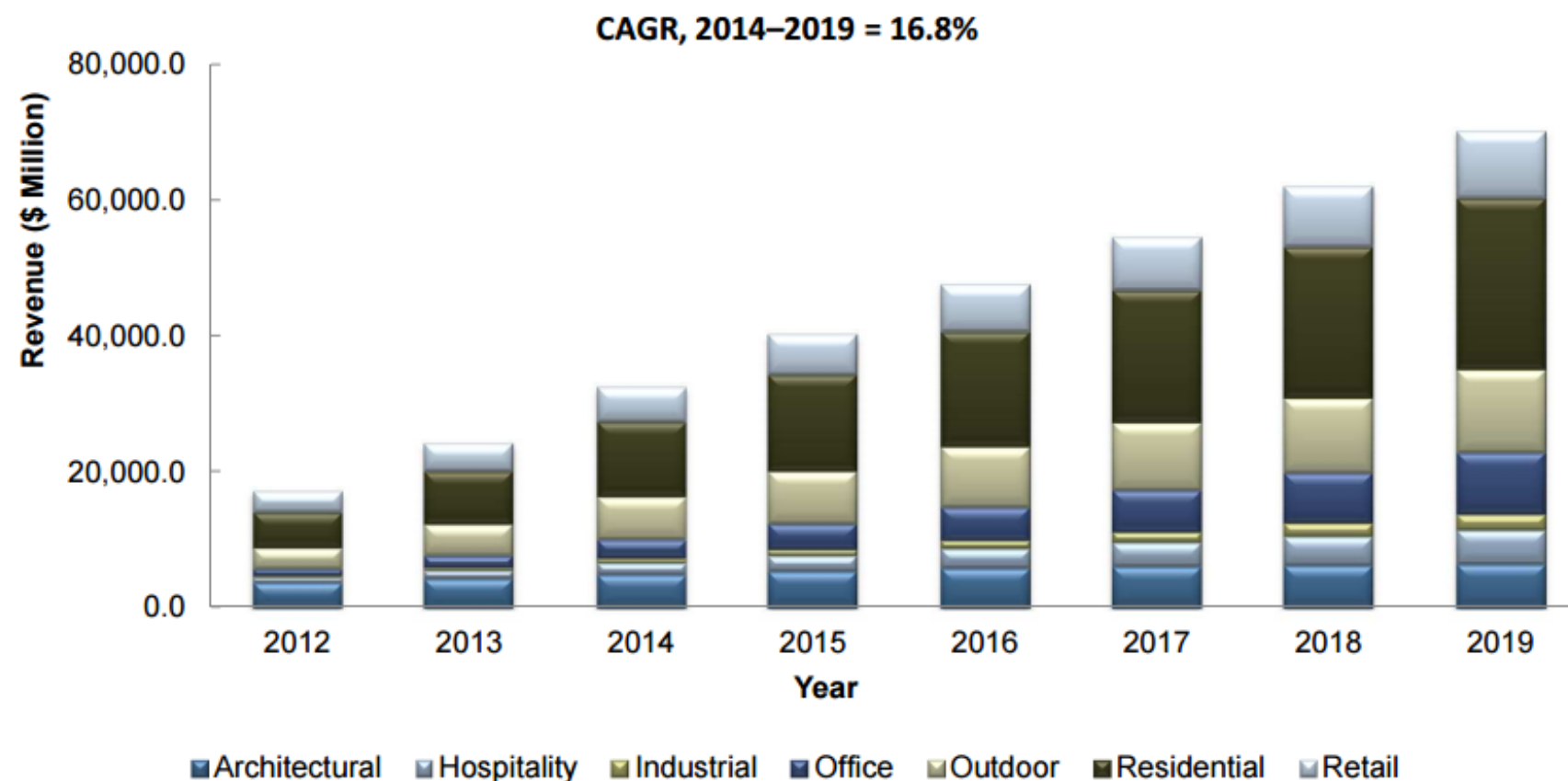


Customer Segments

- **Wholesalers (B2B)**
- Distribution centres (B2B)
- Real estate developers (B2B)
- Real estate managers (B2B)
- Municipalities (B2B)
- Households (B2C via online platform)

Assumption	Size (Million €)
The Current Global LED Market	41 544
Global LED Market 2017	47 743
Europe = 20% market size	9 549
Target Segments (Industrial, Office, Residential) = 50% market size	4 774
66% of sales originate from wholesale/retail distribution	3 151
Total Addressable Market	2 080
TAM/Year	208




- Residential uptake is related to the concept of '**zero emission**' houses, falling prices and increasing end-user awareness.
- Offices retain a potential in **new smaller offices** and retrofit.
- Industrial has large potential but relatively low penetration. The purchasing criteria is creating the best environment for **assembly and precision works**.

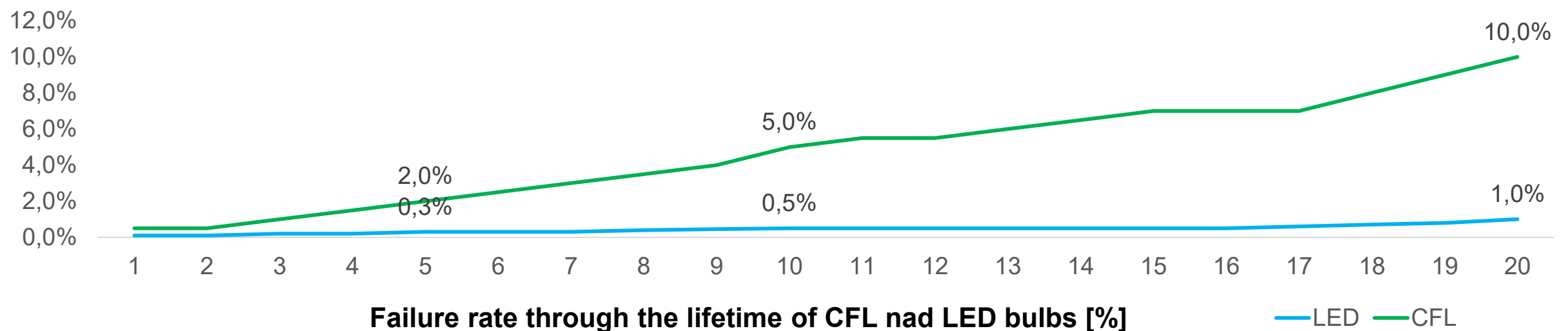


€2 080 M

Total Addressable Market

General competitive advantages, functionality

	Efficiency	Failure rate	Lifetime	Heat emission	Instant „on”	Toxic materials	
	KIC LED	95%	1 in 100 000	~10 years	Low ~ 60 °C	Yes	No
	Incandescent bulb	3%	1 in 10 000	~1 year	High ~ 200°C	No	No
	CFL bulb	10%	1 in 500	~ 4 years	Medium ~ 140 °C	Yes	Yes

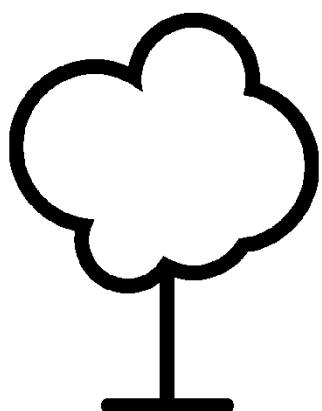


Financial benefits



Lumens	KIC LED	CFL	Incandescent	Savings €/year
500	7 watts	9 watts	40 watts	10-15
850	11 watts	13 watts	60 watts	15-30
1600	20 watts	23 watts	100 watts	20-65

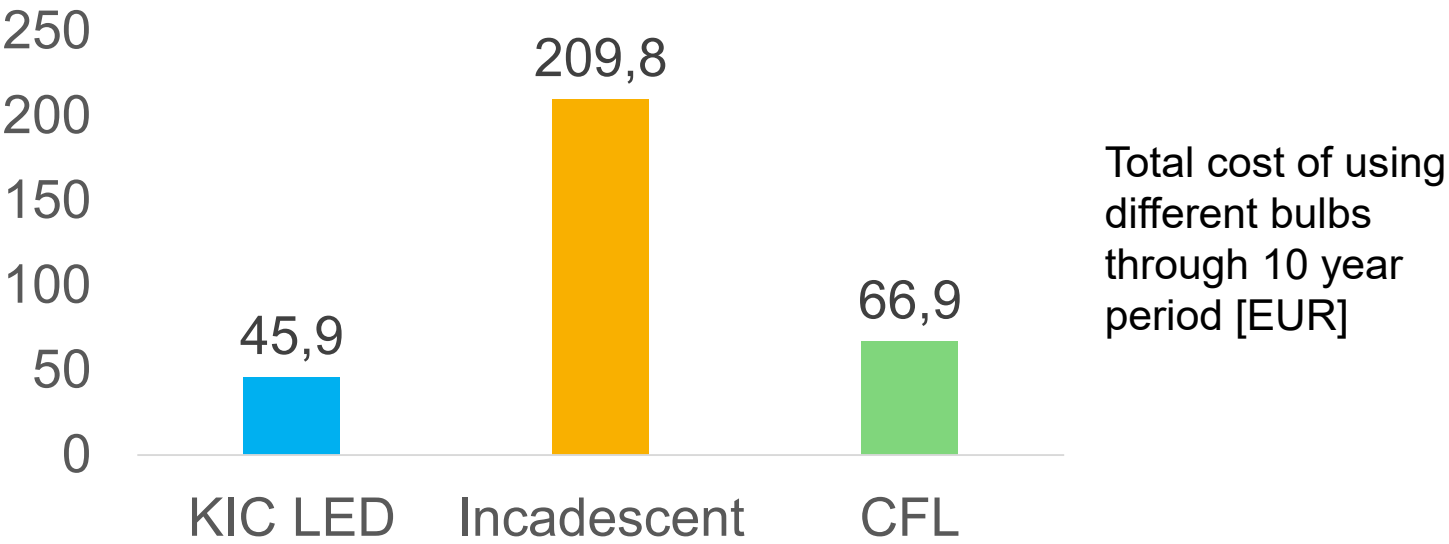
Other benefits



- Low maintenance cost (long lifecycle).
- Low failure rate.
- No overheating.
- Lower CO2 emissions as a result of efficiencies.

Financial benefits, return on investment for the customer

	KIC LED	Incadescent bulb	CFL bulb
Purchase Cost	8 EUR	1 EUR	4 EUR
Brightness	1600 lumens	1650 lumens	1600 lumens
Lifetime	10 years	1 year	4 years
Energy used	20W	100W	30W
Estimated yearly energy cost	3,79 EUR	19,98 EUR	5,69 EUR
Total cost over 10 years	45,9 EUR	209,8 EUR	66,9 EUR





Gary Pittman

CEO

ENGINEERING

BIO

- Introduced 3 new technologies to the product portfolio at Texas Instruments
- Awarded with 8 grants for innovators
- 20 years of experience in electrical engineering

James Biard

CTO

ENGINEERING

BIO

- Introduced 3 new technologies to the product portfolio at Texas Instruments
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Jeff Fleeher

CFO

FINANCE

BIO

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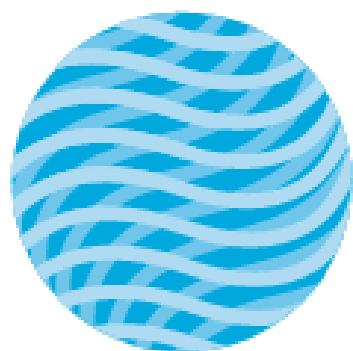
Akos Armont

SALES

STRATEGY

BIO

- Introduced 3 new technologies to the product portfolio at Texas Instruments
- Awarded with 8 grants for innovators
- 20 years of experience in electrical engineering



KIC LED bulb

bringing new light.



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