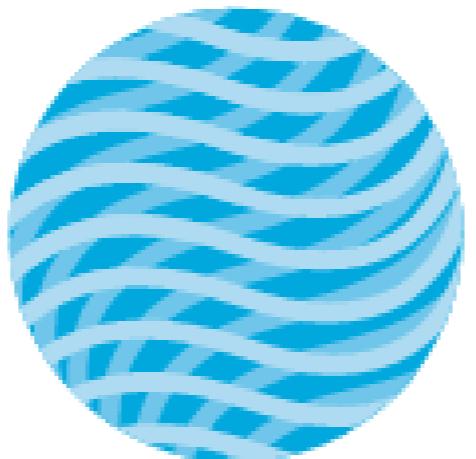




# KIC LED bulb

**LED bulb industries.**

Initial Pitch Presentation



## KIC LED bulb

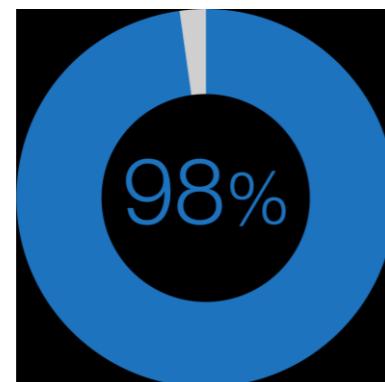
*bringing new light*

## 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.

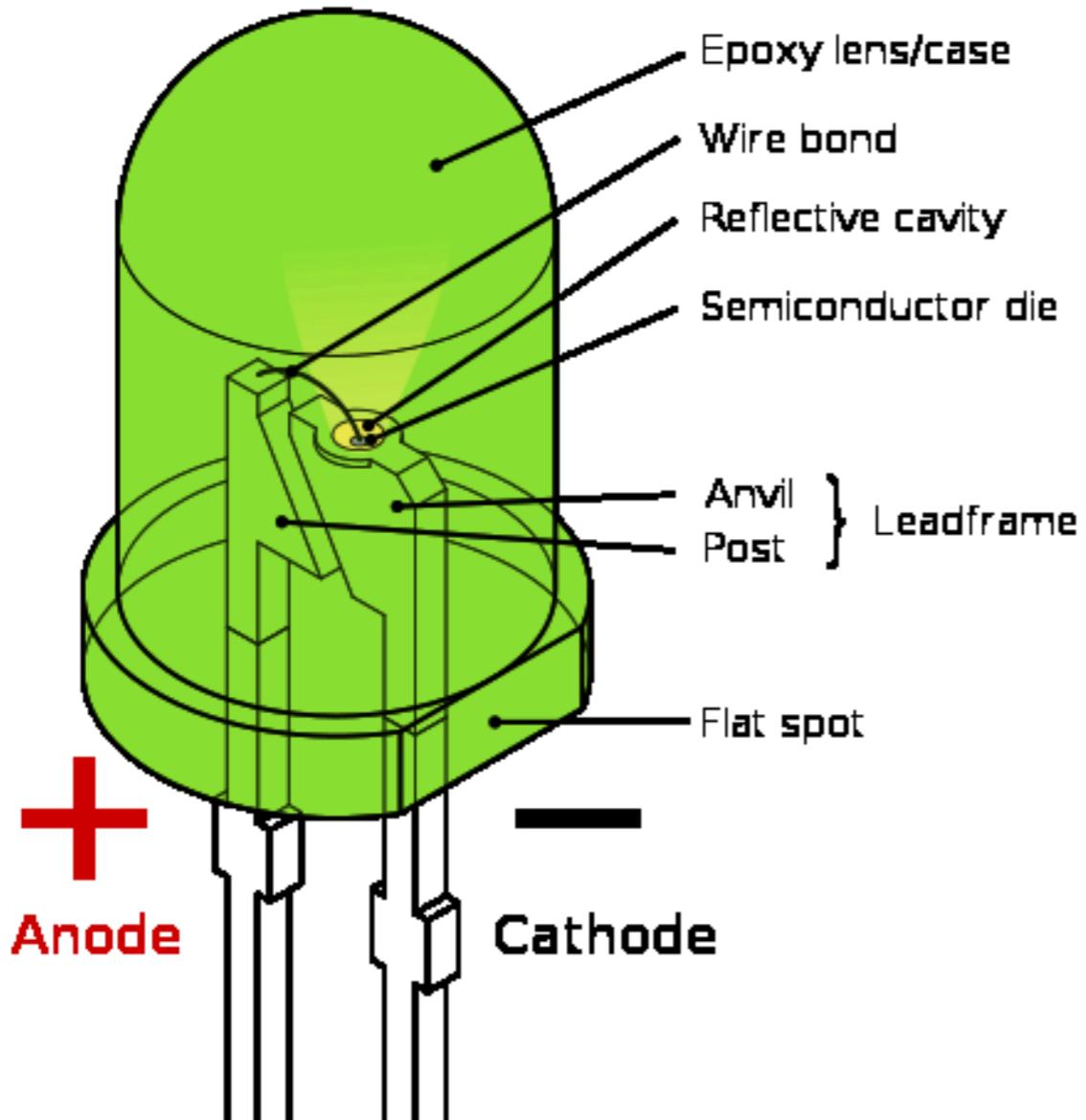


overall  
efficiency



- 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.



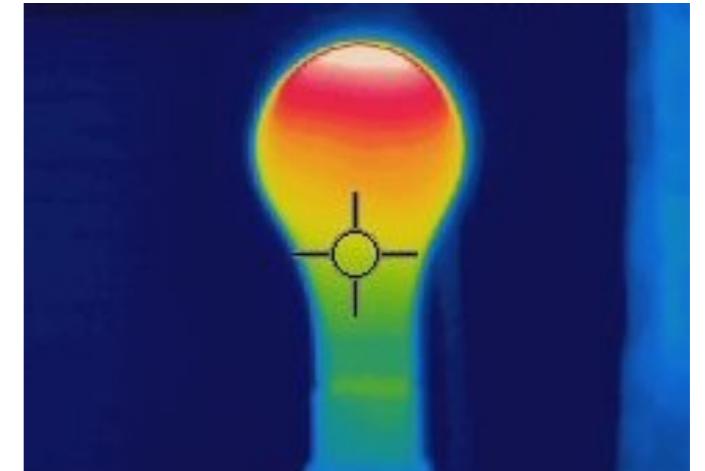
- Silicon semiconductor emits a monochromatic light.
- Junction allows the current to pass in a forward biased direction.
- Electrons pass through crystals and fill holes.
- Electrons emit photons (light).



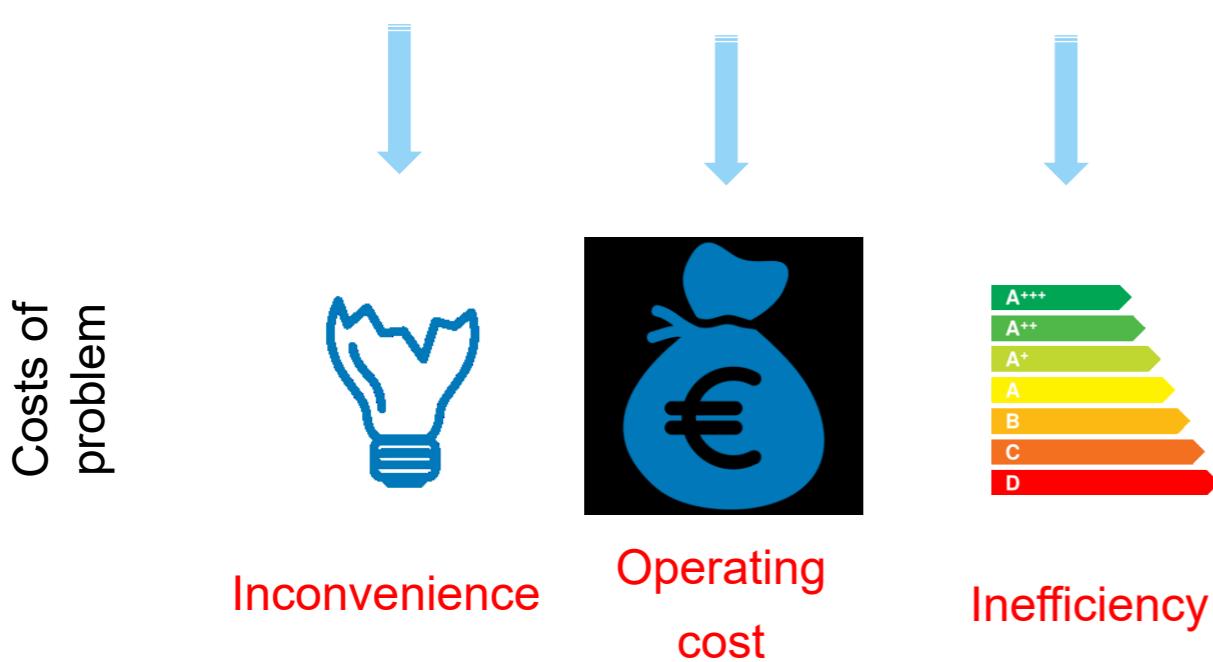
LEDs converts electrical energy into light energy.

## 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.



KIC LED bulb



Future development

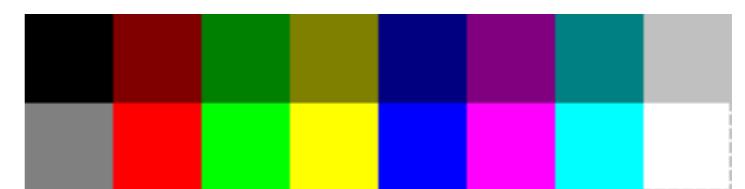
Full company name	KIC LED
Venture stage	Prototype
Creation date	1961
Number of employees	12
Ownership structure	Limited Liability Company (LLC)
Acquired investors	Texas Instruments - €120k Norwest Venture Partners - €880k
Acquired external funding	SME Instrument - €500k
LFY turnover	€1.3m



Our goal is to develop a full family of products.

**Power range:** 1 – 60 W

**Color range:** at least 16 colors



Future color palette

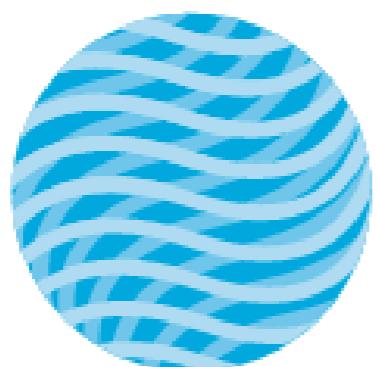
## General product characteristics:

Class: **A++**

Certificate: **CE**

Cost of manufacturing: **7 EUR**

Market Price: **~15 EUR**



**KIC LED bulb**

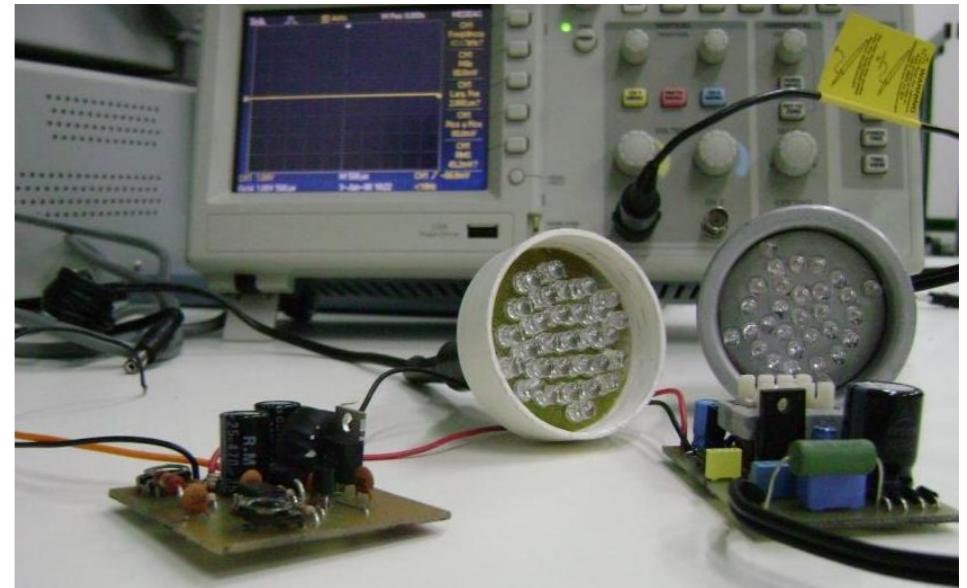


<b>Socket type</b>	E27 (standard)
<b>Light type</b>	Warm white (2700-3300K) 1600lm
<b>Voltage</b>	230V, 50Hz
<b>Power consumption</b>	20W
<b>Equivalent in standard bulb power</b>	~100W
<b>Lifetime</b>	Up to 50 000h (~6 years of constant light)



## 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.

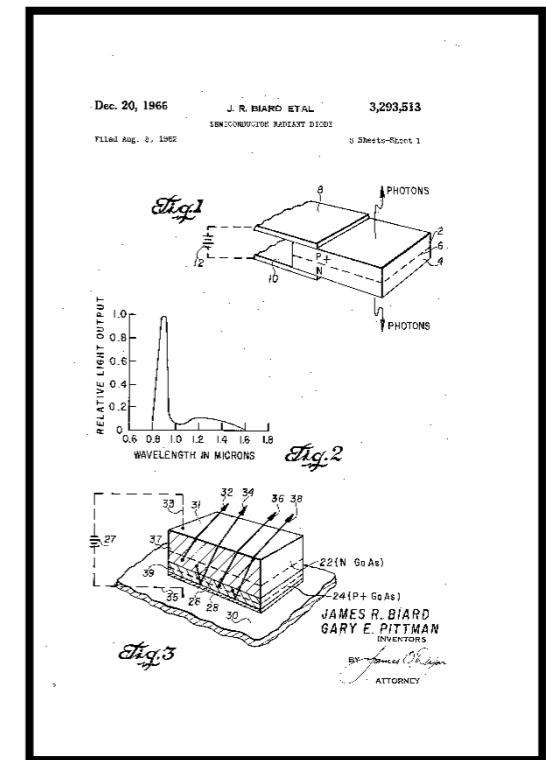


## Intellectual Property

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)

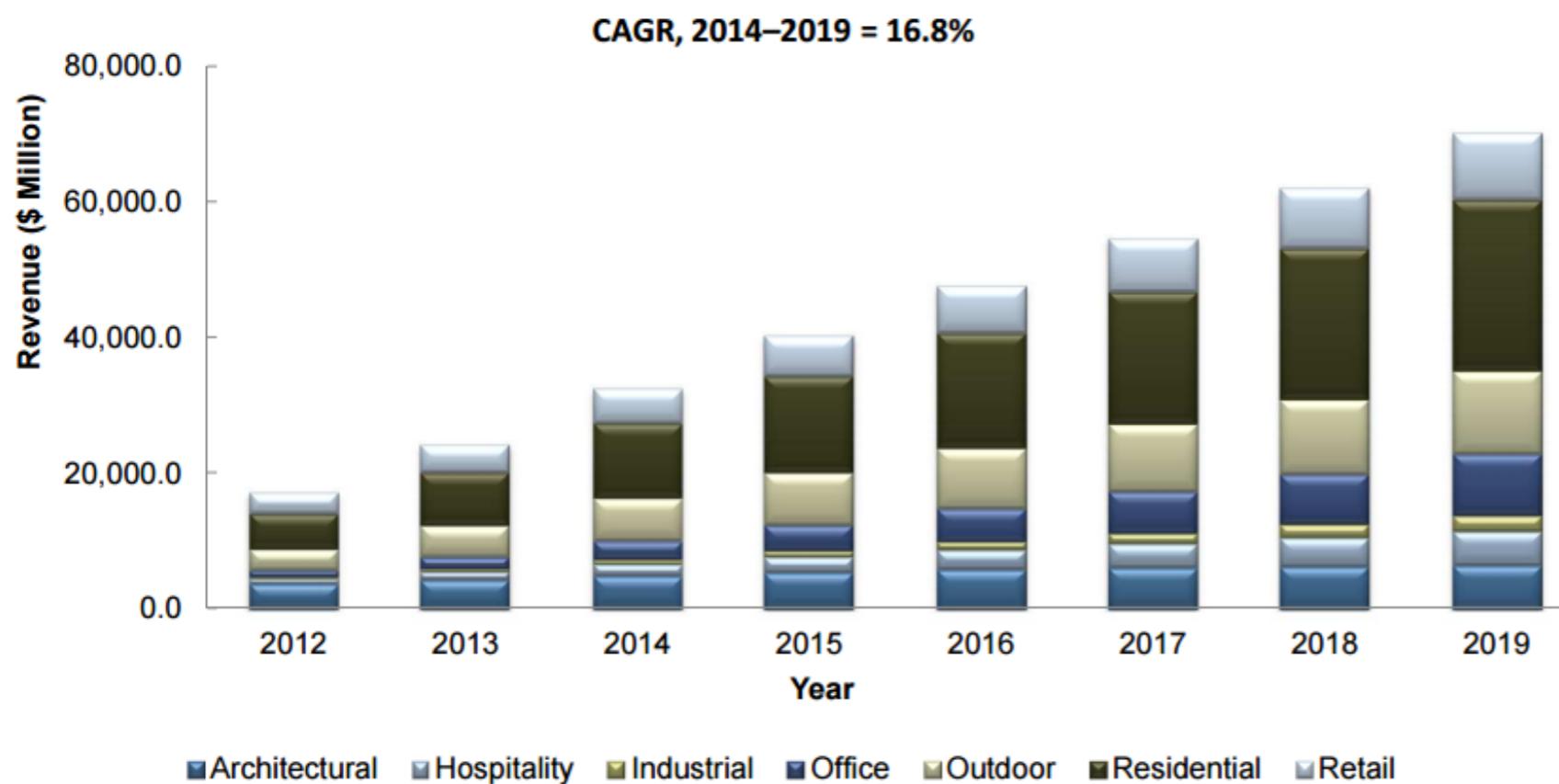


## Customer Segments

- 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



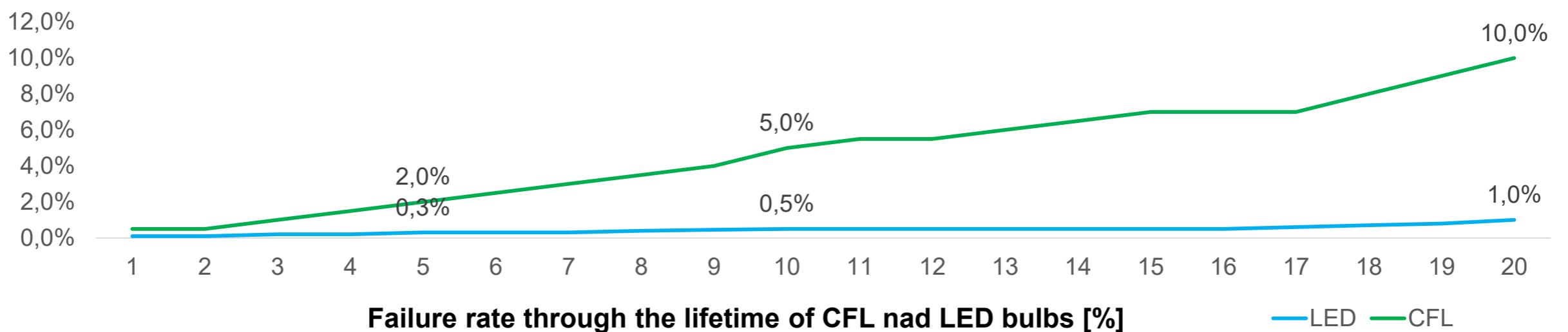
	Efficiency	Failure rate	Lifetime	Heat emission	Instant „on“	Toxic materials
<b>KIC LED</b>	95%	1 in 100 000	~10 years	Low ~ 60 °C	Yes	No



Incandescent bulb	3%	1 in 10 000	~1 year	High ~ 200°C	No	No
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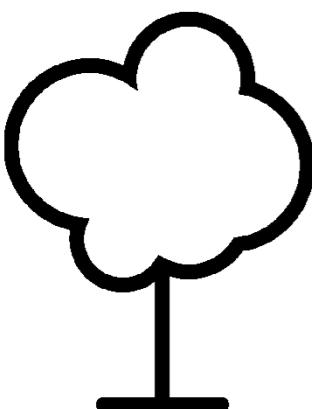
CFL bulb	10%	1 in 500	~ 4 years	Medium ~ 140 °C	Yes	Yes
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## Financial benefits



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

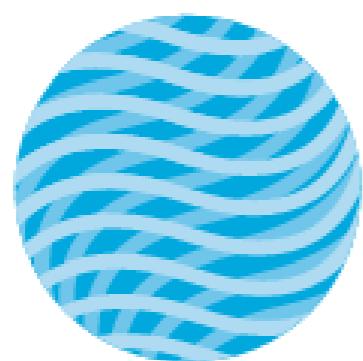


## Other benefits

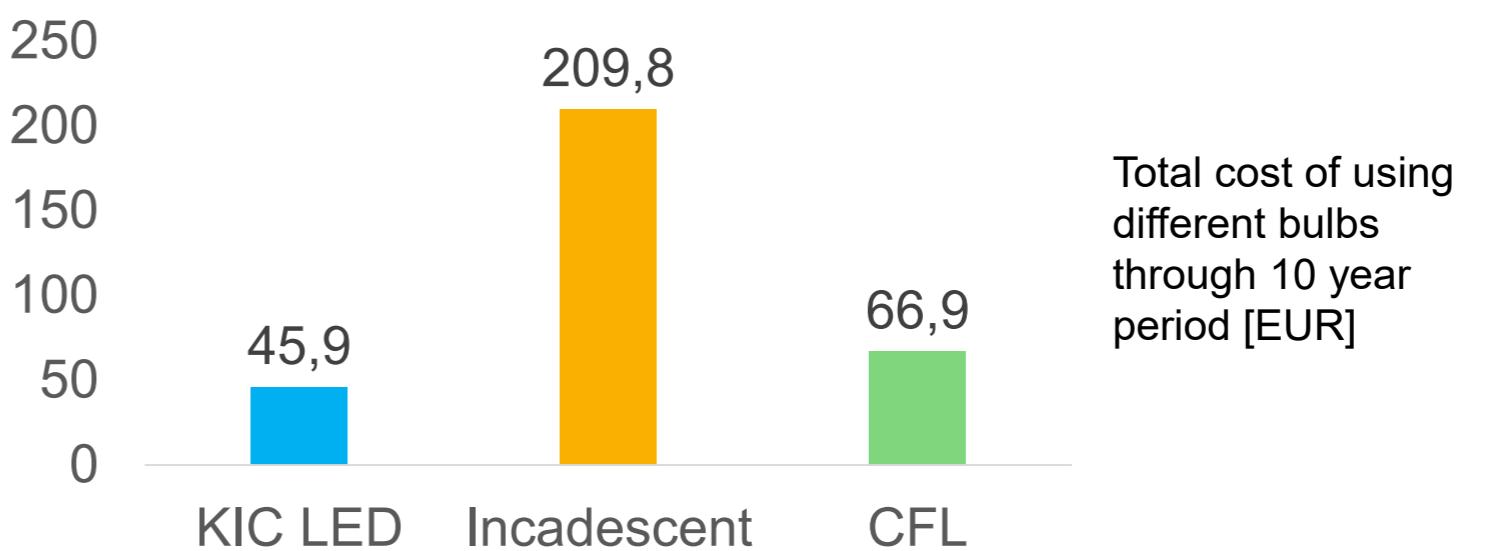
- Low maintenance cost (long lifecycle).
- Low failure rate.
- No overheating.
- Lower CO2 emissions as a result of efficiencies.

## Financial benefits, return on investment for the customer

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



**KIC LED bulb**





## 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
- Awarded with 8 grants for innovators
- 20 years of experience in electrical engineering



## Jeff Fleeher

CFO

FINANCE

### 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



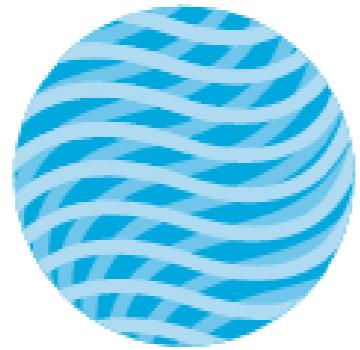
## Akos Armont

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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