

TOYOTA PROJECT

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TRIDONIC solutions

- Why is LED an attractive alternative for such a project?
- Our strength...
- LED's solutions for Toyota project
- Warranty, life time

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LED : BENEFITS OF AN INNOVATIVE LIGHT SOURCE

LONG LIFE

ENERGY SAVING

SAFETY LOW VOLTAGE

LED PURE COLOUR

NO UV & IR

CREATIVE DESIGN

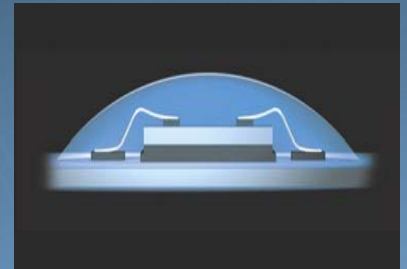
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TridonicAtco - LED technology

● Key competences :

- Cooperation with Toyoda Gosei as leading chip manufacturer
- Own patent for phosphor for colour conversion
- Patents for thermal management
- High quality white LED - lowest tolerances in colour temperature
- Chip on board technology for best performance
 - Low thermal resistance for better light output and life time
 - Higher lumen packages per chip
 - Wide beam angle for better uniformity
 - Protection against humidity
- Complete LED product range
 - LED light sources
 - LED converters
 - LED controls
- High volume production
 - Tridonic Optoelectronics VDA 6.1 certified



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TridonicAtco,

the market leader for LED sign solutions

- Long experience in sign applications and projects
- Full project support
- Good relation to all big European sign manufacturers
- VDA 6.1 according to ISO 9001
- Proven product concept and solutions for signs
 - COB technology
 - Flexible chains and systems
 - Mounting concepts
- Feedback from major projects confirms highest reliability and lowest failure rate
 - sign manufacturers follow TridonicAtco mounting instructions

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LED project service

- **Full customer service to OEM, designer and end user**
 - **Product / application concepts**
 - **Technical and optical measurements, concept validation**
 - **Installation instructions for OEM**
 - **Analysis of energy and maintenance costs**
 - **Extended warranty conditions - project specific**

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- *Tests done on the prototype given by TOYOTA.*
- *Proposal :*
 - Ligth chain P511 Red : 30 modules (standard product)
 - Converter 10, 25 & 70VA (standard products)



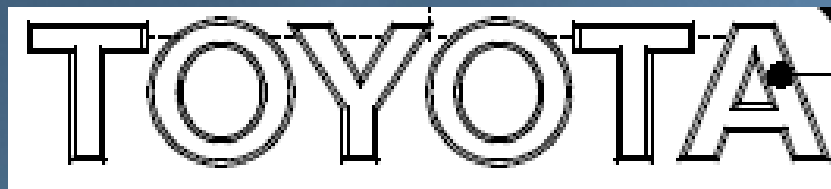
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- *Results :*

Panel height mm	LED P511 RED / 8V										comparison FL - tubes W
	height mm	length mm	width mm	No modules depth 80mm	No chains depth 80mm	LED power W	Total power W	Converters			
								10VA	25VA	70VA	
750	373	2190	89	45	1,5	22	26		1		
990	493	2870	118	128	4,27 (2 rows)	62	74			1	
1250	625	3640	148	164	5,47 (2 rows)	79	94	1		1	
1600	796	4650	200	311	10,37 (3 rows)	149	179	1		2	1210 W *
											(*) 70% of 48x36W

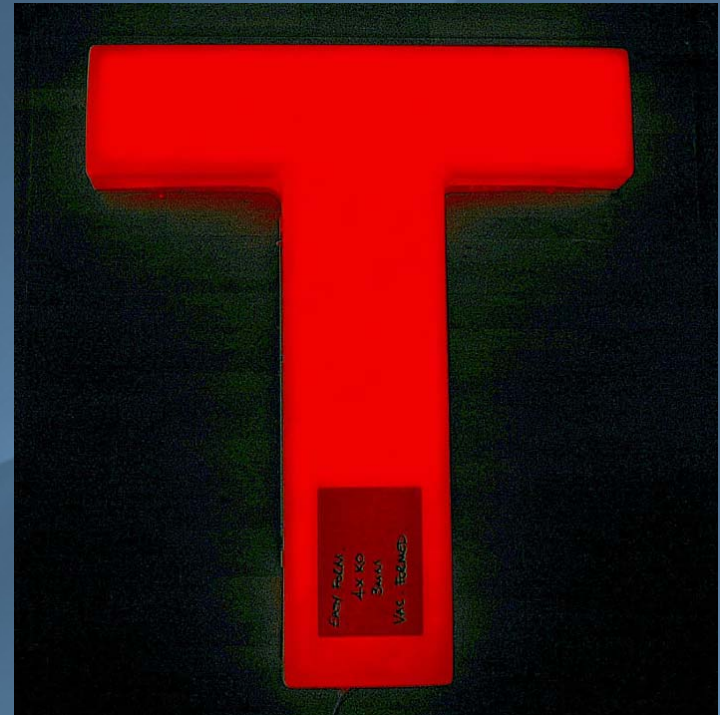


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- *Better uniformity*
- *Higher light level*
- *Energy saving*
- *Low voltage operation*
- *Saturated colours*
- *Reduction of the depth*



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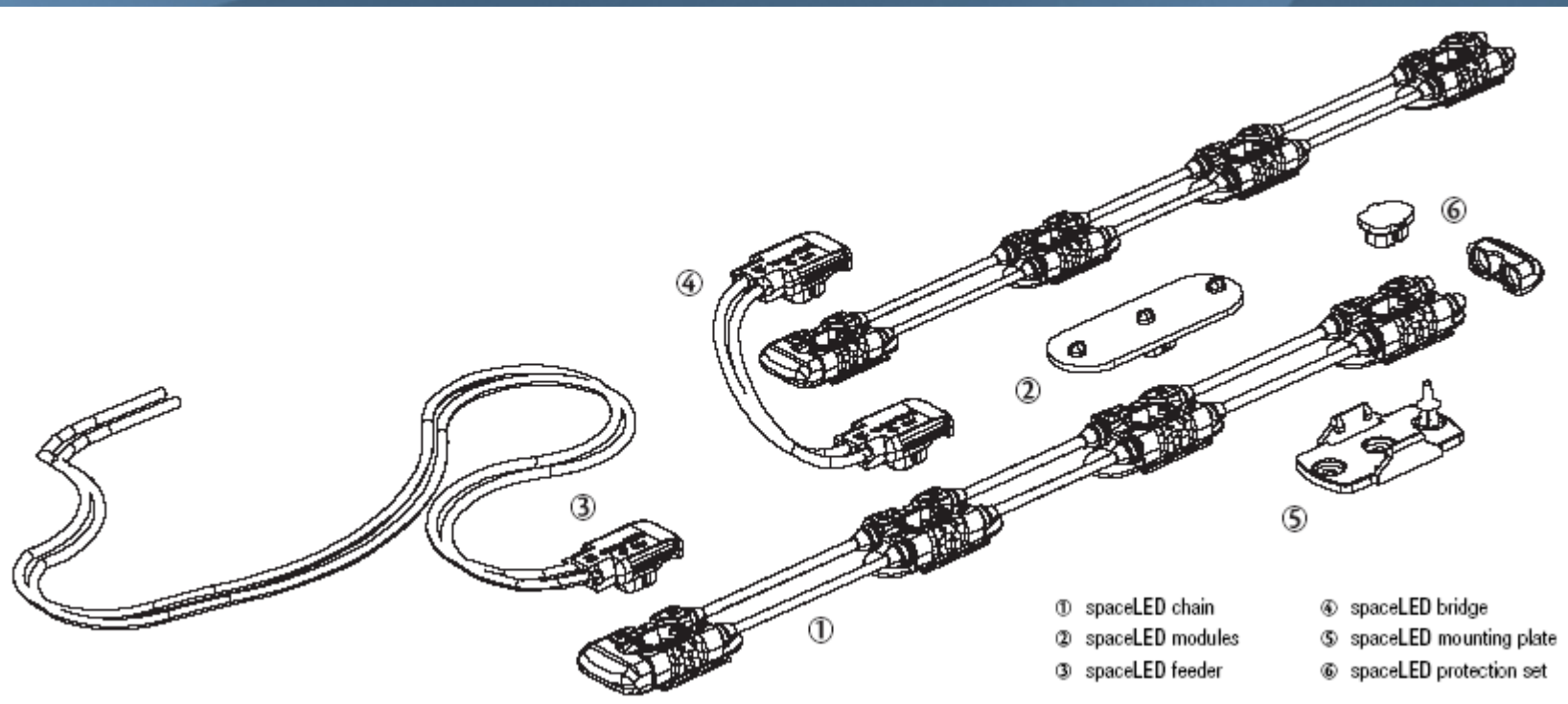
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Monument

- *Simulations based on the results measured on the prototype given by TOYOTA.*
- *Proposal :*
 - Ligth chain : SpaceLED Red modules (standard product)
 - Converters 25 & 70VA (standard products)

Monument

- *SpaceLED solutions*



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Monument

● Results :

Red Fin - spaceLED system 8V							
Height	Length	No modules	No chains	LED power	Total power	Converters	
mm	mm	P602 R	Z101	W	W	25VA	70VA
3000	3700	34	0,37	33	39		1
4000	4735	44	0,48	42	51		1
5500	6525	60	0,66	58	69		1
7080	8415	78	0,85	75	90	1	1
Logo type LED P511 RED / 8V							
Height	Length	No modules	No chains	LED power	Total power	Converters	
mm	mm			W	W	25VA	70VA
3000	1000	26	0,87	12	15	1	
4000	1000	26	0,87	12	15	1	
5500	1320	36	1,2	17	21	1	
7080	1650	47	1,57	23	27	1	
	2135	45	1,5	22	26	1	

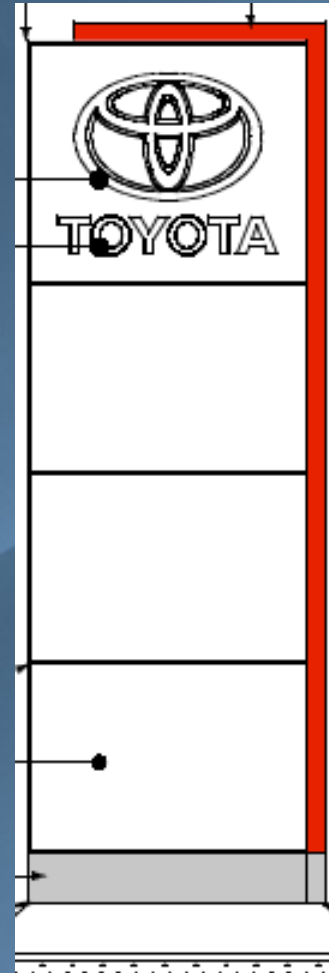


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Monument

- *Better uniformity*
- *Higher light level*
- *Energy saving*
- *Low voltage operation*
- *Coloured solution*
- *Possibility to create a real dynamic animation.*



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Life time, warranty

- LED

- Life time
 - Red : 50 - 80.000 h
- *1 year = 4000h*
- Warranty
 - Red : 2 years standard / 4 years extended

- Converters

- Life time : 50 000h
- Warranty : 2 years standard / 4 years extended

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Conclusions

- Energy saving
- Better uniformity
- Saturated colours
- Reduction of the depth
- Safety low voltage

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Result

3500 offices all over
Europe in 3 years

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