

“Keeping the lights on”

How RS Components tackled the challenge of legacy code



Introductions

**RS Components is the world's
leading high-service distributor of
electronics, automation and control
components, tools and consumables,
serving over 1 million customers**



Box UK specialise in user centred design, iterative development and the optimisation of digital platforms to support ambitious organisations in achieving their goals

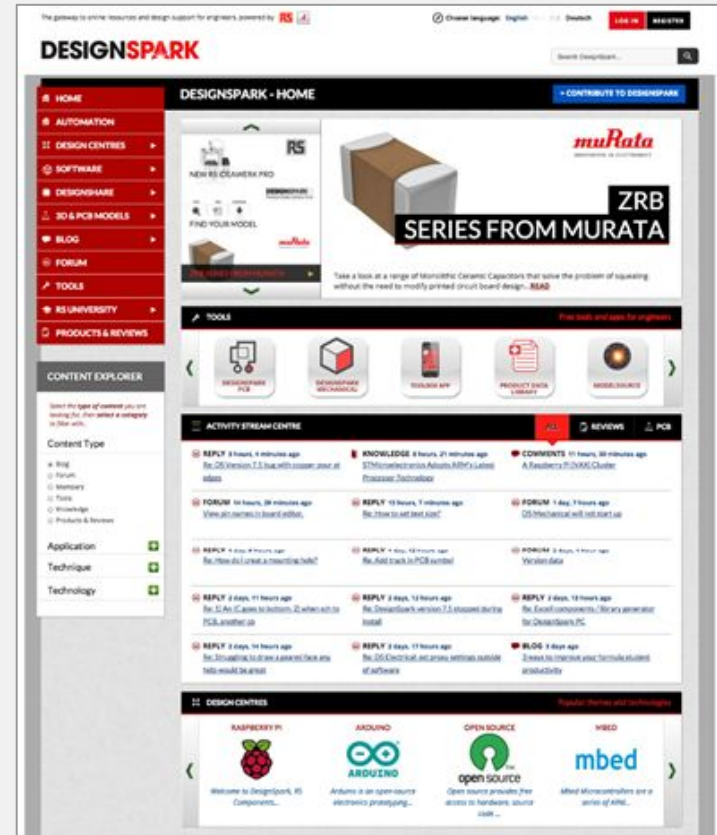


Questions?

Setting the scene

About DesignSpark

- Online community of engineers
- Over 500,000 members worldwide
- Providing valuable, industry-leading information and tools



Previous DesignSpark home page

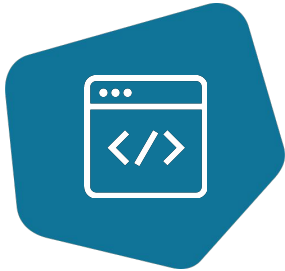
Goals for DesignSpark

- Make DS the go-to destination for engineering information/resources/tools
- Expand offering by encouraging engineers to explore further
- Offer end-to-end support from the earliest stages of design
- Grow community to over 1 million members - making it the largest engineering community in the world



The challenge?

Challenges



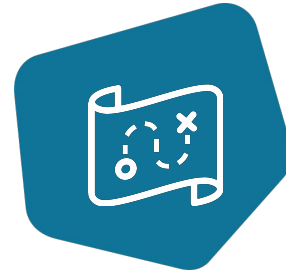
Technical Foundation

High levels of instability within existing sites, threatening reliability



User Experience & Design (UX&D)

A lack of internal UX&D expertise, presenting a potential barrier to the delivery of an exceptional customer experience



Future Roadmap

Uncertainty around whether to keep the two sites separate or combine them into a single platform

DS Electronics

DesignSpark's legacy platform, aimed at electronic engineers



DS Automation

Secondary site (built internally), aimed specifically at design and panel builders

Addressing the issues

RS Components

&

Box UK



4+ years

PROJECT FILTER

By Keyword: **GO**

By Type: Collaborators Wanted

By Partner Name: Elektor, Raspberry Pi

By License: All

ALL PROJECTS

Non-Isolated AC/DC Converter Reference Board (Powe...

Added By: [Simon Holt](#) Updated: 13/08/2013

Created: 13/08/2013

0 Followers

0 likes

12v battery charger

Added By: [jussabelli](#) Updated: 13/08/2013

Created: 13/08/2013

0 Followers

0 likes

order by: most recent

Collaborators Wanted

TE Connectivity products mean power

With a huge range of products for heavy duty applications, from connectors and switches to relays and more, TE Connectivity gives you the power.

[Find out more >](#)

HELP & SUPPORT John H.

Hello John!

DS Mechanical

The new, free Mechanical software built to help you save time and reduce errors.

News

- 02/12/2016 - Version 2.0-7 released
- 02/12/2016 - Version 2.0-7 released
- 02/12/2016 - Version 2.0-7 released

DS Electrical

Provides a powerful and comprehensive range of professional CAD capabilities.

[Download DS Electrical](#)

DS PCB

Provides a powerful and comprehensive range of professional CAD capabilities.

[Download DS PCB](#)

Product Performance Report

Jun 17 | 505,000 Records

Filter by Manufacturer Part Number | Filter by RS Stock Number(s)

Type or paste Manufacturer PN

Filter

Overview

Sales

Quantity Sold

Orders

Conversion Performance

Viewing Sessions

Customers

Stock Volume

Total Downloads

Best periods	Sales	Number of Customers	Qty Sold	Number of Orders	Peak Visits	Conversion	Out of Stock	
No Data	£0.00	595	6,945	455	7,361	62.07%	83.24	
1374120	No Data	03.02	202	6,206	847	4.772	26.39%	58.82
1088517	No Data	03.04	782	2,749	539	5.454	39.45%	10.40
1373826	No Data	03.04	803	6,181	392	2.455	14.82%	44.96

Obsolescence Manager

Search Support Temporary Parts List

Build your parts list

Research parts and components with access to lifecycle status and millions of technical resources across over 400K RS products and build into your parts list.

Manage your lifecycle risk

Review lifecycle updates regularly for changes and use prediction technology to anticipate end-of-life issues enabling proactive monitoring of lifecycle risk within your parts list.

Select your alternatives

With over 70 million alternative component solutions suitably categorised, review and select the right alternatives to your problem components.

Account » Dashboard

Dashboard

DesignSpark -

Download Activity -

High Level Metrics

	Files Delivered	Distinct Users
Last 30 days	282	1
Cumulative total since the launch	17,675	1
Last 30 days (compared to the previous 30 days)	-15.57%	0.00%
Number of new users (during this month)	0	0

Total Downloads - Rolling 12

Downloads by Syndicate - Rolling 12

Connected Thinking

Diving procurement efficiency

Industry Insight About Us Search All Content

Innovation launch pad

PROCESS INDUSTRY

Keeping MRO on track

UTILITY POWER AND COMMUNICATION

Avoid disruption - planned vs unplanned rail maintenance

Key topics

RS Microcontroller Search+ Beta

Find it, Design it, Buy it English

Search

RS Stock No. or MFR Part No.

e.g. 78M05 or ATME642B-FU

Microcontroller Attributes

- Manufacturer
- Family name
- Device core
- Instruction set architecture
- Data bus width

Memory

- Program memory type
- Program memory size
- RAM size

Peripheral

- SPI
- I2C
- UART
- USART

New Products

Microchip Technology PIC10F200-IPT

RS Stock No. 6230005

Family name PIC10

Device core PIC

Ram size 16 B

Program memory 256 x 12 words Flash

£0.42

[Remove from list](#)

Microchip Technology DSPIC33EP256MU80-IPT

RS Stock No. 7432596

Family name dspPIC33

Device core DSP, PIC

Ram size 32 KB

Program memory 280 KB Flash

£5.28

[Add to compare](#)

Microchip Technology PIC24EP266GU810-IPT

RS Stock No. 7432603

Family name PIC24

Device core PIC

Ram size 32 KB

Program memory 280 KB Flash

£5.76

[Remove from list](#)

Toshiba TMPM330DFDG

You've added 2 products for comparison [View compare](#)

- HOME
- AUTOMATION
- DESIGN CENTRES
- SOFTWARE
- DESIGNSHARE
- 3D & PCB MODELS
- BLOG
- FORUM
- TOOLS
- RS UNIVERSITY
- PRODUCTS & REVIEWS

DESIGNSPARK - HOME

CONTRIBUTE TO DESIGNSPARK



NEW RS CLEAVER PRO
FIND YOUR MODEL



ZRB
SERIES FROM MURATA

Take a look at a range of Monolithic Ceramic Capacitors that solve the problem of equating without the need to modify printed circuit board design. **MAD**

TOOLS

Free tools and apps for engineers



CONTENT EXPLORER

Select the type of content you're looking for. Filter below a category (or two).

Content Type

- Blog
- Forum
- Knowledge
- Tools
- Products & Reviews

- Application
- Technique
- Technology

ACTIVITY STREAM CENTRE

ALL | **REVIEWS** | PCB

- | | | |
|--|---|--|
| <p>REPLY 3 hours, 14 minutes ago
Re: DS:Orionen_1.3.1aa_4550_100000_0001_01_0001</p> | <p>KNOWLEDGE 8 hours, 21 minutes ago
STM32electronics Adds STM's Latest Processor Technology</p> | <p>COMMENTS 11 hours, 38 minutes ago
A Resistor's DMM's Choice</p> |
| <p>FORUM 16 hours, 38 minutes ago
View all content in board of this forum</p> | <p>REPLY 13 hours, 7 minutes ago
Re: How to set up a test point</p> | <p>FORUM 1 day, 1 hour ago
DS:Mechanical will not start up</p> |
| <p>REPLY 4 days, 21 hours ago
Re: How do I create a constraint in PCB?</p> | <p>REPLY 4 days, 18 hours ago
Re: Add track to PCB control</p> | <p>FORUM 8 days, 14 hours ago
Variable data</p> |
| <p>REPLY 8 days, 11 hours ago
Re: S.A. An.Cables to test them_12_what will be PCB and that is</p> | <p>REPLY 8 days, 13 hours ago
Re: Download the version_1.3.1.000000_0001_0001</p> | <p>REPLY 8 days, 13 hours ago
Re: Excel components, BOM's generator for DesignSpark PCB</p> |
| <p>REPLY 8 days, 14 hours ago
Re: 3.3v regulator for a sensor and a sensor that will be used</p> | <p>REPLY 8 days, 13 hours ago
Re: DS: Electrical and process settings outside of AutoCAD</p> | <p>BLOG 8 days ago
I have to connect your formulae about the...</p> |

DESIGN CENTRES

Popular articles and technologies

RASPBERRY PI



Welcome to DesignSpark, RS Components...

AROUND



Arduino is an open source electronics prototyping...

OPEN SOURCE



Open source provides free access to hardware source code...

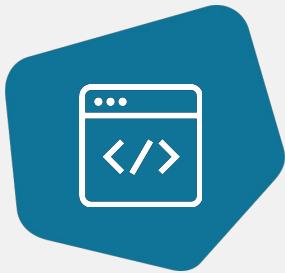
MBED



Micro Microcontrollers are a series of ARM...

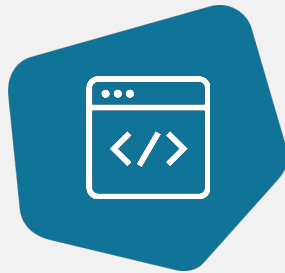
Step 1: review

Defining the 'as-is' situation



DS Automation Code Review

Review of DS Automation codebase with detailed findings and recommendations



DS Electronics Code Review

Review of DS Electronics codebase with detailed findings and recommendations



Architecture Review

Review of DS Auto and DS Elec server architecture with findings and recommendations



UX Review

UX review of DesignSpark covering layout, navigation, interaction, content and visual design with findings and recommendations

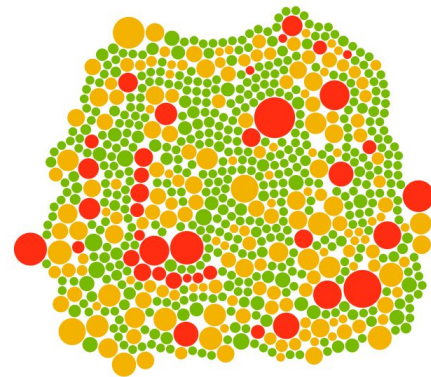
Audit findings

- Code did not always follow industry best practice
- Content findability was negatively impacted by the existing Information Architecture (IA) and navigation, which had not been updated as content had grown organically
- As a result, nearly all traffic was being directed at tools, with limited additional exploration

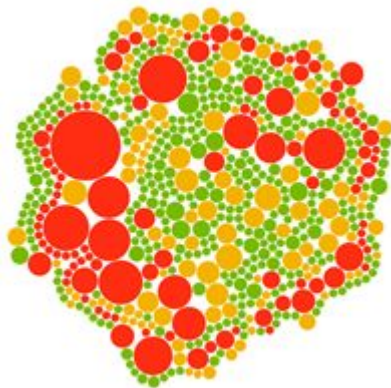


Code quality

DS Electronics



DS Automation



Step 2: making the business case

A case for...

C

H

A

N

G

E

Defining a suitable solution

- Single platform merging both both Electronics and Automation services
- Better serving cross-requirements between the two audiences
- Updates to IA, navigation and content to ensure engineers can still find the specific information they need

The screenshot shows the DesignSpark website homepage. At the top, there is a navigation bar with the logo 'DESIGNSPARK' and a search bar. Below the navigation bar, there is a large banner area with a central graphic of a large number '7' and the text 'DESIGNSPARK IT'S OUR 7TH BIRTHDAY BUT THE GIFTS ARE FOR YOU'. To the left of the banner, there is a section titled 'JOIN US AS WE CELEBRATE DESIGNSPARK'S 7TH BIR...' with a 'DISCOVER MORE' button. To the right, there are several smaller articles or teasers, including 'Do you have problems with transp...', 'Start Enabling Machine Vision F...', and 'Are you looking after your Robot...'. Below the banner, there are four main product categories: 'Mechanical Software', 'Electrical Software', 'PCB Software', and 'Obsolescence Manager'. Each category has a brief description and a 'Read more' link. At the bottom of the page, there is a footer with the text 'Join DesignSpark today' and a small advertisement for 'REGUM' with the text 'Heatsinks are now a thing of the past!'.



The right approach

- Legacy platform to be kept in place until it could be replaced by the new work, in order to:
 - Retain existing following/SEO benefit
 - Demonstrate/deliver value more quickly



Reassuring stakeholders

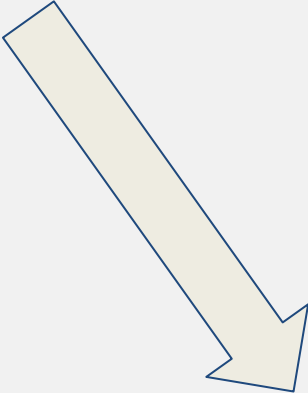
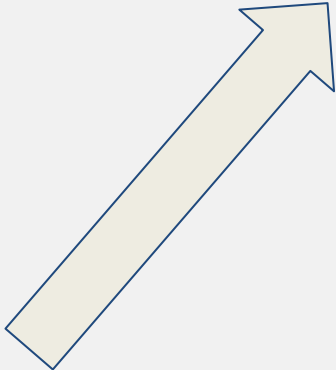
- All initiatives/activities tied to clear, specific KPIs
- Regular progress reviews/checkpoints
- Frequent communication between the product team (both DesignSpark and Box UK representatives) and the RS Steering Group
- Time and materials approach employed
- Epics estimated prior to development
- Budget use monitored throughout



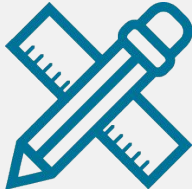
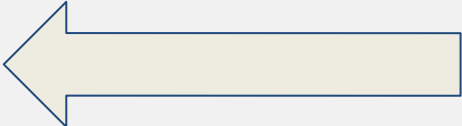
Step 3: implementing change

Development process

Understand requirements

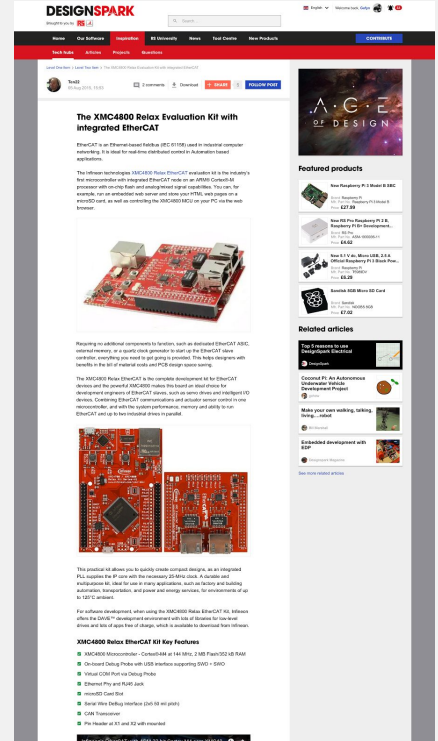
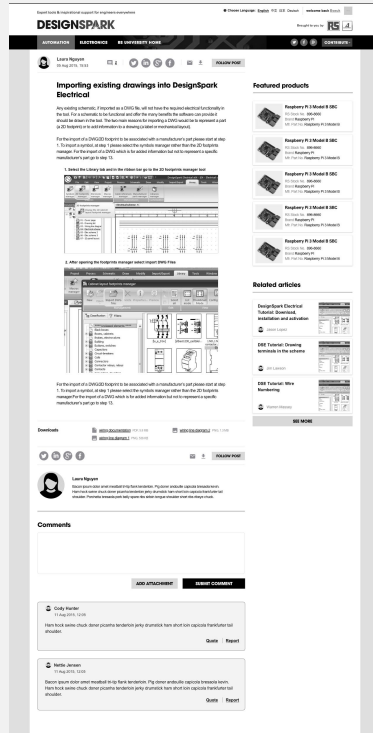
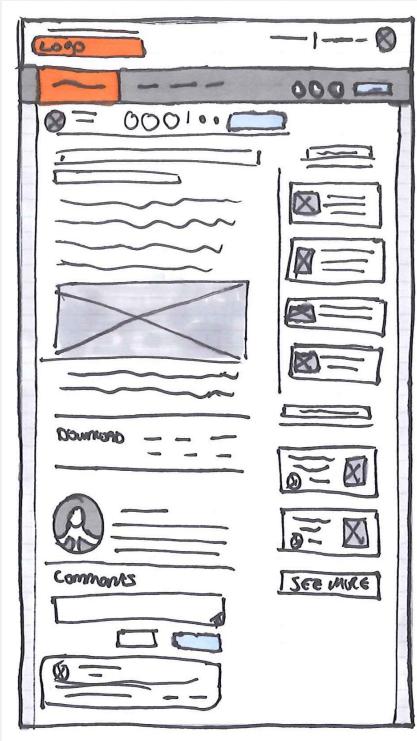


Build, test & deploy



User-centred design

Collaborative, iterative user-centred design



The outcome

JOIN US AS WE CELEBRATE DESIGNSPARK'S 7TH BIRTHDAY...

The DesignSpark Community is 7 years old and although it may be our birthday, this celebration is for you! Find out how you can win a range of prizes and goodies next week.

[DISCOVER MORE](#)



Join us as we celebrate... The DesignSpark Community is 7...

Do you have problems with... Transparent and transparent eye...

Start Endless Machine Vision... For those of us who have been...

WIN CAN DO THE AWARDS

After, Describing Electric... not so long ago in the future of...

Are you looking after your Robot... What robot? Breakdown the code...



Mechanical Software

Design and make things in 3D like never before. DesignSpark Mechanical is a free mechanical CAD software, which enables users to rapidly prototype or reverse engineer any physical object.

[Read more](#)



Electrical Software

DesignSpark Electrical is our free electrical CAD software. This is a complete electrical CAD solution for engineering professionals looking to save time and create error-free designs.

[Read more](#)



PCB Software

DesignSpark PCB is the world's most accessible and comprehensive, full function, free electronics PCB design software, turning your circuit ideas into testable boards, faster.

[Read more](#)



Obsolescence Manager

A free engineering resource specifically built to give factory manage component obsolescence risk across the full range, providing alternative solutions to problem components.

[Read more](#)



Heatinks are now a thing of the past!



Join DesignSpark today

- Comment, follow and share on other users' articles
- Create your very own articles to share your knowledge and experiences with others
- Download software and CAD models
- Contribute to our software forums
- Request support and engage with over 560,000 other users
- Subscribe for regular updates on industry news, trends and products

[REGISTER FOR ACCOUNT](#)[NEED SUPPORT?](#)**Latest Activity Stream**

Reedone 1 COMMENT

28 minutes ago

Happy birthday DS! Wishing you many happy returns of 7th day

at Join us as we celebrate DesignSpark's 7th Birthday... all week long!

ShadenShope 20 minutes ago

Congratulations on existing for 220,934,996 seconds. Live long and prosper!

Happy Birthday

at Join us as we celebrate DesignSpark's 7th Birthday... all week long!


Professor Bean

leona 1 ARTICLE

Robotics - July 5, 2017 10:51

Meet Team Carbide - Robot Wars UK Champions 2017

Team Carbide - 2017 champion of UK TV show 'Robot Wars' - take to 20 Components about what's made its winning robot.




DesignSpark 1 ARTICLE

Articles - July 5, 2017 09:27




Join us as we celebrate DesignSpark's 7th Birthday... all week long!

The DesignSpark Community is 7 years old and although it may be our birthday, this celebration is for you! Find out how you can win a range of prizes and goodies next week.






Community benefits

- Bringing DesignSpark tools together
- Consistent experience
- Clear product information/instructions on how to download/register/activate
- Self-service capabilities
- Enhanced end-to-end support for community members
- Improved ability to capture user feedback, which can then be used to inform future development work

 <h3>Mechanical Software</h3> <p>Design and make things in 3D like never before. DesignSpark Mechanical is a free mechanical CAD software, which enables users to rapidly prototype or reverse engineer any physical object.</p> <p>Benefits</p> <ul style="list-style-type: none">■ Access a huge library of 3D models■ Generate Bill-of-Materials and get instant online quotes■ Import & Export industry standard file formats (including STL, SKP, OBJ, AutoCAD DXF, etc.)■ Design without time or file size limitations <p>EXPLORE MECHANICAL SOFTWARE</p>	 <h3>Electrical Software</h3> <p>DesignSpark Electrical is our free electrical CAD software. This is a bespoke electrical CAD solution for engineering professionals looking to save time and create error-free designs.</p> <p>Benefits</p> <ul style="list-style-type: none">■ Comprehensive parts library■ Save time with automated reports and process including wire and component numbering■ Live parts price and availability along with simple Bill of Materials (BoM) generation■ Unlimited number of projects, symbols and connections <p>EXPLORE ELECTRICAL SOFTWARE</p>	 <h3>PCB Software</h3> <p>DesignSpark PCB is the world's most accessible, free electronics design software, turning your circuit ideas into testable boards, faster.</p> <p>Benefits</p> <ul style="list-style-type: none">■ No limitation on your schematic size so you should have no limitation on creating your PCB design■ Create your own libraries or use our extensive library■ Import and Output files in the format you need■ Create a Bill of Materials (BoM) in the format you require <p>EXPLORE PCB SOFTWARE</p>
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Self-service happens wherever your customers are looking to discover and find helpful information.

		
<p>Knowledge Base</p> <p>Create a resource of helpful articles that answer customers' (and agents') most popular questions.</p>	<p>Online Community</p> <p>Cultivate customer conversations to crowdsource support and generate feedback.</p>	<p>Customer Service Portal</p> <p>Customers can log in to track tickets and view subscribed community topics and questions.</p>

Strategic benefits

- Cementing RS Components' position at the early stages of the design process
- Putting the organisation front-of-mind for subsequent purchases
- Supported by links from the DesignSpark site to the main RS Online store
- Dedicated regional sites increase global reach
- Third-party advertising solutions are also helping make DesignSpark self-sufficient



it with integrated EtherCAT

ents Download + SHARE 5 FOLLOW POST





... Evaluation Kit with

... (IEC 61158) used in industrial computer
... tributed control in Automation based

... elax EtherCAT evaluation kit is the industry's
... erCAT node on an ARM® Cortex®-M
... g/mixed signal capabilities. You can, for
... and store your HTML web pages on a
... e XMC4800 MCU on your PC via the web



Featured products

	New Raspberry Pi 3 Model B SBC Brand Raspberry Pi Mfr. Part No. Raspberry Pi 3 Model B Price £27.99
	New RS Pro Raspberry Pi 2 B, Raspberry Pi B+ Development... Brand RS Pro Mfr. Part No. ASM-1900036-11 Price £4.62
	New 5.1 V dc, Micro USB, 2.5 A Official Raspberry Pi 3 Black Pow... Brand Raspberry Pi Mfr. Part No. T5989DV Price £6.29
	Sandisk 8GB Micro SD Card Brand Sandisk Mfr. Part No. NOOBS 8GB Price £7.02

Measurable return on investment



9.2% growth in
traffic YoY.



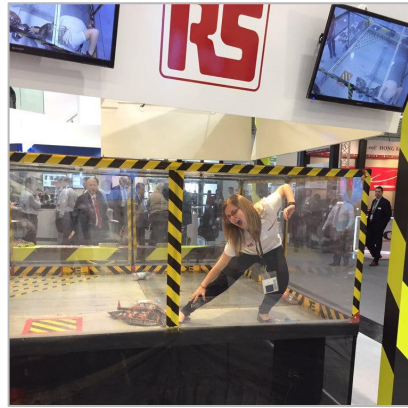
Registered
engineers
increased by 32%
since launch.



RS share price **risen**
233%.

Cultural benefits

- Change in team atmosphere and expectations
- DesignSpark now seen as innovators within RS Components, able to make changes quickly
- Complementing a wider organisational shift towards Agile ways of working



Building on success



Sound familiar?

Thank you!

www.rs-online.com/designspark
www.boxuk.com/keep-me-informed



@boxuk
@RSComponents
@DesignSparkRS

simply brilliant thinkers

making software brilliantly simple