DeSyRe
on-Demand System Reliability

First Press Release of the Project

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ABSTRACT Press releases are key to attract attention of the general public and that of the research and medical community to the project. Its success can be seen in the number of web and printed publications that pay attention to it, as well as in the amount of traffic it drives to the project website www.desyre.eu
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Contents

1. Introduction

The goals of the first Project Press Release (PR) are defined as follows:
The first Press Release focuses on explaining the goals of the DeSyRe project to the public at large and appeared in Month 6 (End March 2012). A second press release will be released at the end of the project to publicize the results of DeSyRe. More PR may be issued at any moment in time to announce breakthrough results of the project.

Generating publicity consists of two parts: creating the actual press release, and selecting the target audiences and the appropriate channels to deliver the message to the target audience. In this document, we report on steps taken and their results.

2. Initial press release to explain DeSyRe goals: March 2012

2.1 Actual news vs background news

As 'actual news' gives a sense of urgency and tends to get picked up easier than to background news due to its actuality, we decided to tie the explanation of DeSyRe to an actual event: a tutorial of the project leader Ioannis Sourdis during the DATE 2012 event.

2.2 Target audiences

For this press release, we target the general public, more specifically those with an interest in science and technology. We choose a secondary target group for the medical community with an interest in technology- more specifically, those with interest medical devices. Those target groups are a good fit to the DeSyRe goals: new technologies for highly reliable systems.

2.3 PR channel

To reach the target audience specified above, we asked Chalmer's University PR department for help and in addition used 2 european press agencies.

Chalmers distributed the PR via their account at the Alphagalileo press release service and sent it to a group of journalists both in Europe and the US. If the source of the PR is a university with a solid reputation, PR almost automatically receives the qualification 'solid scientific news'.

Under the name of the DeSyRe consortium, we distributed the PR via the Alphagalileo and Cordis press release services. In addition, we sent it to a handful of journalists in Europe and various European countries.

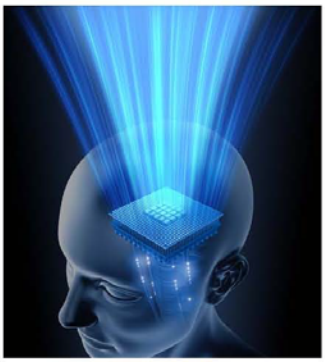
2.4 Timing

To allow the news to be actual, we released it just before the start of the DATE 2012 conference on March 12: Friday March 9th. This allows journalists with an interest who planned to attend the conference, to actually visit the tutorial and/or speak to Ioannis Sourdis at the conference.

2.5 Press release contents

New design techniques enable extremely reliable medical devices

Dresden, March 12, 2012 - For pacemakers and other implantable medical devices there are three key factors: extreme reliability, small size, and long longevity. In the EU project *DeSyRe*, researchers tackle these issues with a new approach: building a reliable system on unreliable components. Ioannis Sourdis, project leader, today explains the DeSyRe's approach in a tutorial on "Hardware and software design and verification for safety critical electronic systems" during the DATE 2012 conference in Dresden.



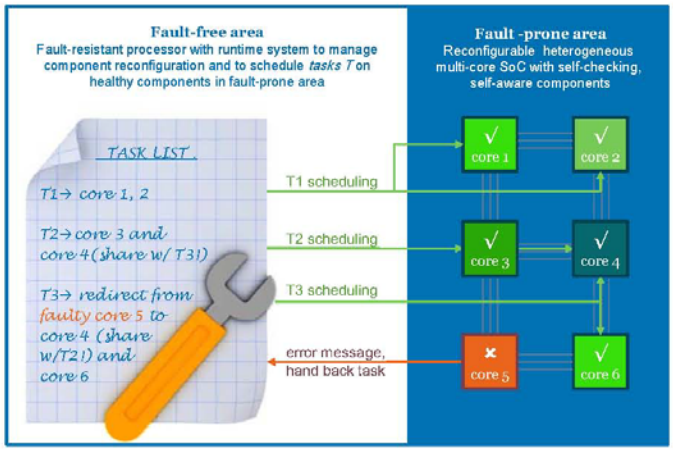
Implantable deep brain stimulators will benefit from the new DeSyRe approach for extremely reliable chips

To counter the increasing fault-rates expected in the next technology generations, DeSyRe develops new design techniques for future Systems-on-Chips to improve reliability while at the same time reducing power and performance overheads associated with fault-tolerance. Ioannis Sourdis, Assistant Professor in Computer Engineering at Chalmers University of Technology, is the project leader of DeSyRe (on-Demand System Reliability).

"We focus on the design of future highly reliable Systems-on-Chips that consume far less power than other designs for high reliability systems," he says. "This approach allows by design devices that combine high reliability with small batteries and state-of-the-art longevity. It is perfect for safety-critical applications such as in implantable medical devices, for example pacemakers or deep brain stimulators that treat Parkinson's disease".

Research in reliable systems typically focuses on fail-safe mechanisms that use various redundancy schemes, in which sensitive subsystems are entirely doubled as a fail-safe. Checking for faults in the subsystem increases the energy consumption and decreases the performance of chips, as testing all subsystems cost time and energy.

The DeSyRe consortium takes a different approach, and separates the System-on-Chip (SoC) into two different areas: one which is extremely resistant to faults, and one area with fault-prone processing cores. The cores on the fault-prone area are interchangeable and the task of one core can easily be transferred to any of the other cores in case of a diagnosed malfunction. The fault-free part of the chip is responsible for monitoring the



DeSyRe design for fault-tolerant Systems on Chip

operation of the fault-prone part by performing sanity-checks of the processing cores, and for assuring that each core correctly handles an assigned sub-task.

"It sounds perhaps counterintuitive to design a highly reliable System-on-Chip on the basis of components that may fail, and yet this is exactly what we propose to do. Since our subsystems consist of small, interchangeable processing cores, we can test and exclude individual cores while the function of the whole systems stays intact", says Gerard Rauwerda, CTO of Recore Systems, one of the industry partners of DeSyRe. "The beauty of the DeSyRe approach is that the system continues to do its job reliably, even if one or more cores fail, extending chip longevity."

The researchers expect this type of fault-tolerance to reduce energy consumption by at least ten to twenty percent compared to other redundancy schemes, while at the same time minimizing penalty on performance.

"People that need implantable medical devices will also benefit from this, as it pays off in a longer battery life and a postponed device replacement without any compromise to reliability," Ioannis Sourdis concludes.

About the tutorial at DATE 2012

The tutorial on "Hardware and software design and verification for safety critical electronic systems"takes place on Monday March 12, from 09:30 to 13:00, during the DATE 2012 Conference in Dresden.

More on the DATE 2012 'Design Automation and Test in Europe' conference and the tutorial: www.date-conference.com/conference/session/E1

About the EU FP7 project DeSyRe

The DeSyRe consortium brings together leading European experts in the field of fault-tolerant and self-repairing designs, both from academia and industry. University partners are: project leader Chalmers University of Technology (Sweden), University of Bristol (UK), EPFL (Switzerland), FORTH (Greece) and Imperial College London (UK). Industry partners are Neurasmus and Recore Systems (The Netherlands) and Yogitech (Italy).

Project start date: 1st October 2011

Duration: 36 months

Project website: www.desyre.eu

For more information, please contact:

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2.6 Language versions

The PR item was translated to the various languages below and placed on the Cordis Newsroom of the European Commission www.cordis.europa.eu :

Language	Title	web link
English	Innovative medical devices with less cost, less energy	Cordis English item DeSyRe
French	Des appareils médicaux innovants plus économiques et écologiques	Cordis French item DeSyRe
German	Innovative Medizinprodukte mit weniger Kosten, weniger Energie	Cordis German item DeSyRe
Italian	Dispositivi medici innovativi con costi minori e minor uso di energia	Cordis Italian item DeSyRe
Polish	Innowacyjny sprzęt medyczny - niższe koszty i zużycie energii	Cordis Polish item DeSyRe
Spanish	Dispositivos médicos innovadores más baratos y con menor consumo energético	Cordis Spanish item DeSyRe

Example of the DeSyRe Press release in the Cordis Newsroom

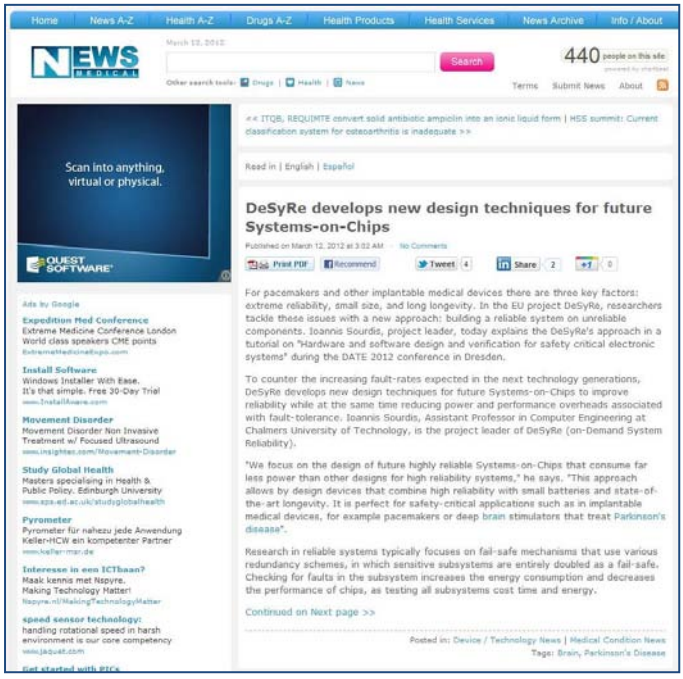
2.7 Results

By the end of March 2012, news about the DeSyRe project has appeared on over 25 websites, and on countless news aggregator sites. We provide an overview per target group (medical community, general public with scientific interest, and also for the translations) and give 2 examples per category. Almost all publications spend a substantial amount of space (250-500 words) on DeSyRe.

Publication in medical/medical devices news

Publication	Title	link
NEWS MEDICAL	DeSyRe develops new design techniques for future Systems-on-Chips	news-medical.net
medtechinsider	Design Approach for Systems-on-Chips Aims for Extreme Reliability By Using Unreliable Components	medtechinsider.com
BioPortfolio	DeSyRe develops new design techniques for future Systems-on-Chips	bioportfolio.com
MTB europe Medical Technology Business Europe	New design techniques enable extremely reliable chips for medical devices	mtbeurope.info | Medical Technology Business
Immortality Medicine	New design techniques enable extremely reliable medical devices	immortalitymedicine.tv
FDANEWS	New Design Techniques Enable Extremely Reliable Medical Devices	fdanews.com
Medi Quality www.mediquality.net	'DESYRE': des appareils médicaux innovants plus économiques et écologiques	mediquality.net

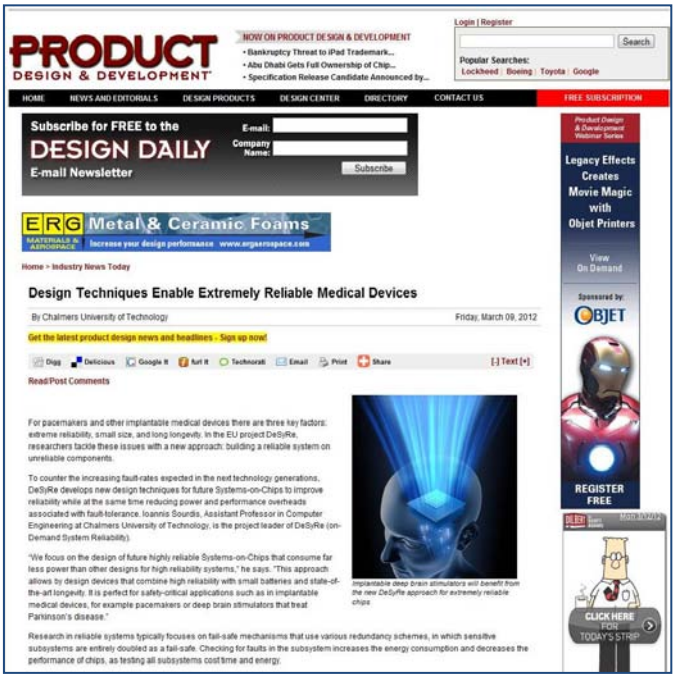
Screen shot of www.medtechinsider.com



Screen shot of www.news-medical.net

Publications in technical/scientific news

Publication	Title	link
PRODUCT DESIGN & DEVELOPMENT	Design Techniques Enable Extremely Reliable Medical Devices	ppd.net | Product Design and Development
Display+	New design techniques enable extremely reliable medical devices - Display Plus	displayplus.net
treehugger	New design techniques enable extremely reliable medical devices	treehugger.com
PHYSORG.COM SCIENCE : PHYSICS : TECH : NANO : NEWS	New design techniques enable extremely reliable medical devices	physorg.com
Interesting Tech	New design techniques enable extremely reliable medical devices	interesting.rk.net | Interesting Tech
Science News *Daily*	New design techniques enable extremely reliable medical devices	sciencenewsdaily.org
onlargetjobs DeviceSpace Life • Science • Community	New Design Techniques Enable Extremely Reliable	devicespace.com
Semiconductor Manufacturing & Design COMMUNITY	Fault-tolerant Implantable Devices	semimd.com | Semiconductor Manufacturing Research News
Balkans.com Business News	Innovative medical devices will help cut energy use and lessen penalties on performance	balkans.com
Design & Reuse	New design techniques enable extremely reliable medical devices	design-reuse.com
CATALUNYA Vanguardista	Innovative medical devices	catalunyavanguardista.com
TEKNIK OG VIDEN.DK - dit digitale fagblad	New design techniques enable extremely reliable medical devices	teknikogviden.dk
COMPUTE SCOTLAND	Extreme reliability of design and the agile brain	computescotland.com



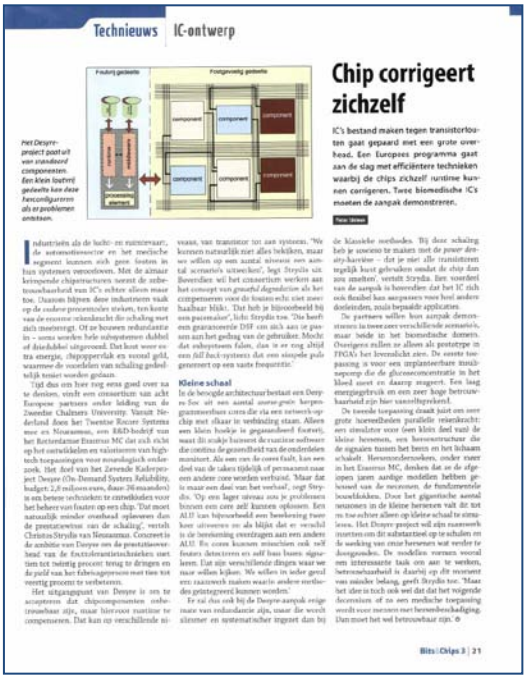
Screen shot of www.ppd.net

Screen shot of www.physor.com

Publications in various languages

Publication	Title	link
LaFlecha Tu diario de ciencia y tecnología	Proyecto DESYRE	laflecha.net
barrixe bizkaiko berrikuntza behatokia observatorio de la innovación de bizkaia	Dispositivos médicos innovadores más baratos y con menor consumo energético	barrixe.com
ingenieros.es portal de ingenieros españoles	Dispositivos médicos innovadores más baratos y con menor consumo energético	ingenieros.es
Money.pl	Innowacyjny sprzęt medyczny - niższe koszty i zużycie energii	money.pl
Racjonalista	Innowacyjny sprzęt medyczny - niższe koszty i zużycie energii	racjonalista.pl
marketpress.info	Dispositivi medici innovativi con costi minori e minor uso di energia	marketpress.info
Bits&Chips	Chip corrigeert zichzelf	Printed publication full page interview with Neurasmus, published on March 30th

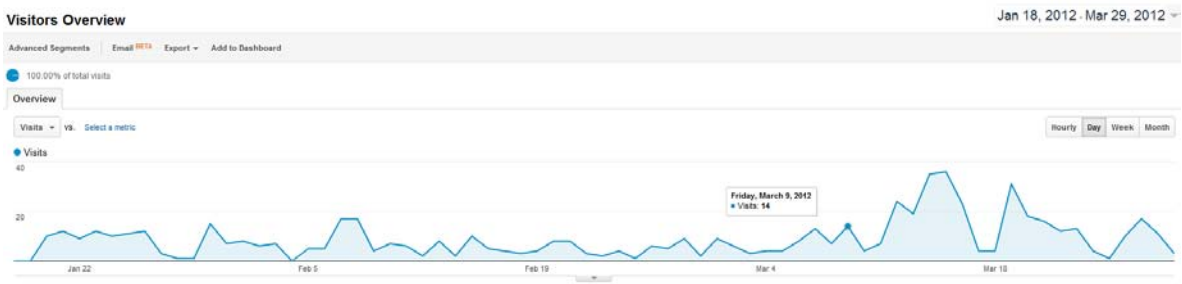
Screen shot of www.ingenieros.es



1-page article in Bits&Chips, 2012-3, p 21

2.8 Effect of the press release on web site visits

The website www.desyre.eu has Google Analytics statistics embedded since Jan 20, 2012. The number of visitors, whether they are new or returning, and where they originate from can be monitored since that date.



Visitors overview of www.desyre.eu between Jan 18 and Mar 29, 2012. The blue dot is March 9th.

The press release was sent out on Friday, March 9th, and after the weekend the website traffic started to increase. The effect of increased web traffic continues for about 2 weeks.

To compare 'before' (Jan 20- March 8) and 'after' (March 9-28) the press release:

	# visits/day (total)	# unique visitors/day	% new visitors	% visits via referrals
before (48 days)	7.1 (339)	1.8 (88)	25%	31% [1]
after (19 days)	16.0 (303)	8.5 (162)	48%	58% [2]

1. Only via consortium partners: Chalmers, Recore Systems, cs.bris.ac.uk, ics.forth.gr.
2. Visits via cordis.europa.eu (89), medtechinsider.com (9), design-reuse.com (7), mtbeurope.info (6), eurofundsnews.pl (2), semimd.com (2), alphagalileo.org (1), facebook.com (1), google (2), news-medical.net(1), racjonalista.pl(1) and the consortium partners (55, 31% of the referrals). The publications lead 69 new visitors to the web site.

As a result of the press release, the number of visits per day more than doubled, and the percentage of new visitors almost doubled.

The number of unique visitors (new visitors) per day increased almost 5-fold. The publications led 69 new visitors directly to the web site, which is almost half of the 162 unique visitors who visited our web site after the press release. An additional 26 new visitors came by searching for "desyre" in multiple variations via Google and other search engines.

Long-term effects of the press release on the web site cannot be assessed to date.

2.9 Conclusion

The first press release to explain the goals of DeSyRe was publicized in at least 7 medical (devices) publications, at least 13 popular scientific publications, and in at least 7 publications in other languages than English.

The press release more than doubled the number of visitors per day, and particularly increased the number of new visitors per day.