24 July – 09 August 2015

Design Hub
RMIT University

Smart Flexibility: Advanced Materials and Technologies
Materfad, Barcelona’s materials centre

IMPACT FOR
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Materfad, Barcelona’s materials centre

24 July – 09 August 2015
Design Hub RMIT University

An international touring exhibition curated by Materfad, Barcelona and presented as part of the Design for Impact festival organized by RMIT’s Design Research Institute.

Download a copy of Materfad’s Smart Flexibility: Advanced Materials and Technologies official catalogue on: www.smartflexibility.materfad.com


www.materfad.com
www.designresearch.rmit.edu.au

RMIT is a global university of technology and design. Since 2009, RMIT’s Design Research Institute (DRI) and its inaugural Director - Professor Mark Burry showcased the work of collaborative multi-disciplinary design research addressing real world problems through its annual Design Challenge and the Convergence: Transforming Our Future exhibition.

In 2015, as the new DRI Director, I am proud to lead and showcase the continued vibrancy of RMIT’s design research and innovation eco-system through the Design for Impact festival from 24 July to 9 August. Its aim is to demonstrate the role of collaborative and industry-engaged design research in creating impact through solutions, products and services. The major event of this festival is the international touring exhibition Smart Flexibility: Advanced Materials and Technologies curated by Materfad, Barcelona’s materials centre, Spain and exhibited at RMIT’s Design Hub, Melbourne, Australia.

Smart Flexibility: Advanced Materials and Technologies presents the potential of active and flexible materials from ten countries including USA, Germany, Denmark, UK, Holland, Switzerland, Canada, China and Spain. Three RMIT design research projects – Penumbra led by Professor Richard Blythe, Associate Professor Paul Minifie and Nick Williams, Luminia: A Luminous Cloud led by Dr Chin Koi Kho and Aesthetics of Air: Visualising the Invisible led by Dr Malte Wagenfeld have been selected to part of the Melbourne exhibition and will continue to tour with the Materfad exhibition.

Through the international projects and over 100 materials and technologies, the exhibition reformulates concepts such as flexibility, activity, energy efficiency, structural capacity, sensitivity, reactivity, control, function and form...

This global exhibition explores the increasing role of materials in our society. It demonstrates how advanced and innovative materials can catalyse collaborative, multidisciplinary and innovative research and industry-focused possibilities and projects that benefit our society, integrating design, technology, innovation and entrepreneurship.

With RMIT’s rich history and global reputation in design education and research, Design for Impact festival and Smart Flexibility contribute to RMIT’s position as a leading design and innovation education, research and cultural institution and to Victoria’s position as Australia’s leading design capital.

Introduction

Professor Swee Mak
Director, Design Research Institute
RMIT University.

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RMIT Design Research Institute

The RMIT Design Research Institute (DRI) aims to build the role of design research as a ‘solution finder’ towards the challenges of Urbanisation and the Cities of the Future.

DRI is a unique location for transdisciplinary research collaboration, bringing over 200 RMIT researchers and their industry, government and community partners together to access a broad spectrum of design thinking.

Researchers from architecture, fashion, aeronautical and chemical engineering, business, industrial design, art and new media form teams around significant projects.

DRI’s research projects are speculative and practical, applicable to the ways we live and work, create culture and communities, plan and navigate our world.

Smart Flexibility: Advanced Materials and Technologies

The Smart Flexibility: Advanced Materials and Technologies exhibition is the result of the ongoing technological surveillance task of Materfad, Barcelona’s materials centre. Materfad seeks to explore the current capabilities provided by certain structures and materials to raise awareness and adapt architecture to its environment.

From this perspective the exhibition stands on the borderline between matter and structure, investigating the flexibility and intrinsic reactivity of some specific materials and advanced technologies.

In order to do so, Smart Flexibility not only congregates architects, designers and construction engineers but also creators from other sectors such as fashion, whose projects and products are focused on smart flexibility.

These contemporary works and projects associated with materials, sensitive systems and articulated mediums allow us to imagine the functionalities that can be made available, from smart and flexible architecture to a reactive garment.

The harvesting of wind and solar power, electrical and thermal energy generation, perception and adaptation to climatic conditions, to acoustics and the lighting environment, user detection and modification of the space according to a person’s body, movements or even emotions are the challenges of tomorrow’s spaces and are thus the guidelines of this exhibition.

“Active Flexibility” attracts developments from universities and businesses from different countries (Germany, United Kingdom, Holland, Spain, Switzerland, Denmark, United States, Canada and China), all revolving around national research projects and with specific lines in this innovative and future field. It now includes three projects from RMIT University, Melbourne, Australia.

Materfad, as an accredited Support Centre for Technological Innovation, has the goal of facilitating the introduction of innovation through the documented use of advanced materials and technologies. This exhibition shares this strategy.
What is Materfad?

Materfad, Barcelona’s materials centre, performs a research and technological surveillance task in the field of new materials and new technologies.

Materfad disseminates knowledge in the field of new materials, processes and technologies among businesses, professionals, universities and technology centres to facilitate their application in industry and in the commercial sector and to generate innovation in the development of new products and spaces.

Materfad provides the different materials selection tools that articulate one of the clearly defined paths to innovation: the good use and selection of the materials.

Materfad supports the actors of innovation to achieve energy efficiency in products and processes in order to address the major challenges of the future in the best conditions.

- **Material** is a substance, an element or a chemical composite normally developed to fulfill a function, whether mechanical, electrical, optical, thermal, magnetic or aesthetic.

- **Structure** is the arrangement and order of the parts within a whole, a system of compatible and coherently linked materials whose goal is to condense the essence of the whole.

- **Intelligence** is the ability to conjoin the knowledge possessed by a being, an entity or a system to resolve a specific situation.

- **Flexibility** is the ability of a material, entity or system to deform when subjected to force and to recover its original position when the force is withdrawn.

The **Smart Flexibility** exhibition, through the use of advanced materials, among them active materials, explores the potentialities they present when they form part of flexible, adaptive structures that are suitably integrated into the environment. The **Smart Flexibility** exhibition, through materials and technologies, reformulates concepts such as flexibility, activity, energy efficiency, structural capacity, sensitivity, reactivity, control, function and form. It allows us to view the present in an open and collaborative manner and dynamically through prospective projects in which different national and international research groups lead the way, set the trend and make us look to the future with the necessary assurance required by a much-sought-for sustainable development, a development for which it is crucial for technical industry to evolve towards a matter industry for the sake of multifunction, sustainability and the ‘visible’ invisibility of physical matter.

Materfad presents **Smart Flexibility** as a key element in the creation of value for the end product through new functionalities and new benefits offered by new materials in the context of energy efficiency.
1. Materiability
2. Bloom (video)
3. Techno Naturology
4. Pixel Skin
5. Strange Metabolism
6. Hygro Skin – Pabellón Meteorsensible
7. Step-Lux
8. Persiana de control solar
9. Translated Geometries
10. Foam (video)
11. Lotus Dome/Liquid Space (video)
12. Uniace
13. Vibe-ing
14. My Thread Pavilion
15. Space-E(motion) and Sample Book
16. Radiant Soil
17. Sound Embracer
18. Trailblazer
19. Persistent Model # 3
20. Smart and Flexible Materials
21. Leaf Spring (video)
22. Penumbra
23. Lumina: A Luminous Cloud
24. Aesthetics of Air: Visualising the Invisible
Perception/Adaption to the Environment

Perception/Adaption to the User

1. Materiability
ETH (Eidgenössische Technische Hochschule) – Zürich, Switzerland
Materiality Research Network
Chair for Computer Aided Architectural Design - Manuel Kretzer
www.materiability.com

2. Bloom (video)
DOSU Studio Architecture – California, USA
Doris Sung
www.dosu-arch.com

3. Techno Naturology
The Fabrick Lab – Hong Kong, China
Elaine Ng Yan Lin
www.thefabricklab.com

4. Pixel Skin
Orangevoid – London, United Kingdom
www.orangevoid.com

5. Strange Metabolism
The Royal Danish Academy of Fine Arts, School of Architecture – Copenhagen, Denmark
CITA – Centre for Information Technology and Architecture
Prof. Mette Ramsgaard Thomsen + knitter Toni Hicks + KADK students Sigrid Bylander, Hasty VallipurGoudarzi, Nagy Awad.
www.cita.karch.dk

6. Hygro Skin – Pabellón Meteorosensible
Universität Stuttgart, Germany
ICD Institute for Computational Design – Faculty of Architecture and Urban Planning
Prof. Achim Menges + Oliver David Krieg, Steffen Reichert
www.icd.uni-stuttgart.de
7. Step-Lux
Elisava – Barcelona, Spain
Escola Superior de Disseny i Enginyeria de Barcelona
Dr. Javier Peña + Pau Romagosa
www.elisava.net

Materfad – Materials Centre
Valérie Bergeron
www.materfad.com

LEITAT – Technological Centre
José Sáez
www.leitat.org

8. Persiana de control solar
Elisava – Barcelona, Spain
Escola Superior de Disseny i Enginyeria de Barcelona
Dr. Javier Peña, Dra. Marta González + Albert Lahoz,
Maximilià Marínel-lo, Bernat Basté
www.elisava.net

9. Translated Geometries
IAAC, Institute for Advanced Architecture of Catalonia,
Master in Advanced Architecture - Barcelona, Spain
Areti Markopoulou, Alexandre Dubor, Moritz Begle
Efieleta Baseta, Ece Tankal, Ramin Shambayati
www.iaac.net

10. Foam (video)
IAAC – Institute for Advanced Architecture of Catalonia – Barcelona, Spain
Areti Markopoulou, Alexandre Dubor, Moritz Begle + Luis León López,
Chung Kai Hsieh, Maria Laura Cerda
www.iaac.net

11. Lotus Dome/Liquid Space (videos)
Liquid Space (Video)
Studio Roosegaarde – Waddinxveen, The Netherlands
Daan Roosegaarde
www.studioroosegaarde.net

Lotus Dome (Video)
Studio Roosegaarde – Waddinxveen, The Netherlands
Daan Roosegaarde
www.studioroosegaarde.net

12. Unlace
TU/e University of Technology – Eindhoven, The Netherlands
Eef Lubbers
www.tue.nl

13. Vibe-ing
TU/e University of Technology and TextielMuseum TextielLab Tilburg
and Metaronics – Eindhoven, The Netherlands
Jesse Asjes + Eunjee Jeon, Martijn ten Bhömer, Kristi Kuusk.
www.tue.nl
www.textielmuseum.nl

14. My Thread Pavilion
Jenny Sabin Studio LLC – Philadelphia, USA
Jenny E. Sabin
www.jennysabin.com

15. Space-E(motion) and Sample Book
Diffus Design Aps – Copenhagen, Denmark
Hanne-Louise Johannesen
www.diffus.dk
16. Radiant Soil
Philip Beesley Architect Inc. (PBAI) – Toronto, Canada
www.philipbeesleyarchitect.com

17. Sound Embracer
IAAC – Institute for Advanced Architecture of Catalonia – Barcelona, Spain
TU/e University of Technology – Eindhoven, The Netherlands
ESDI – Escola Superior de Disseny – Barcelona, Spain
Óscar Tomico, Marina Castán + Xavi González, Carlos Gómez + Gerard Rubio,
Cristina Real, Sara Gil, Gerda Antanaitye
www.iaac.net
www.tue.nl
www.esdi.es

18. Trailblazer
IAAC – Institute for Advanced Architecture of Catalonia – Barcelona, Spain
TU/e University of Technology – Eindhoven, The Netherlands
ESDI – Escola Superior de Disseny – Barcelona, Spain
Óscar Tomico, Marina Castán + Xavi González, Carlos Gómez + Bert Balcaen,
Martin Lukac, Rafael Vargas, Gemma Vila-Masana
www.iaac.net
www.tue.nl
www.esdi.es

19. Persistent Model # 3
The Royal Danish Academy of Fine Arts,
School of Architecture – Copenhagen, Denmark
CITA Centre for Information Technology and Architecture
Associate Professors Phil Ayres + Kasper Stoy (ITU),
David Stasiuk (CITA), Hollie Gibbons (CITA) + FESTO
www.cita.karch.dk

20. Please refer to the Smart and Flexible Materials section of this booklet.

21. Leaf Spring (video)
UPC Universitat Politècnica de Catalunya – Barcelona, Spain
ETSAV Escola Tècnica Superior d’Arquitectura del Vallès CODA Barcelona Tech –
LiTA Laboratori d’Innovació i Tecnologia en Arquitectura
www.coda-office.com

22. Penumbra
RMIT University, School of Architecture and Design – Melbourne, Australia
Professor Richard Blythe, Associate Paul Minifie, Nicholas Williams
Scott Mitchell, Daniel Prohasky, Amaury Thomas, Joshua Salisbury-Carter,
Brendan Knife, Wenjin Lai, Todd Dawson, Guangshan Pan.
www.sial.rmit.edu.au/portfolio/penumbra/

23. Lumina: A Luminous Cloud
RMIT University, School of Architecture and Design – Melbourne, Australia
Dr Chin Koi Khoo
www.vimeo.com/89060180

24. Aesthetics of Air: Visualising the Invisible
RMIT University, School of Architecture and Design – Melbourne, Australia
Dr Malte Wagenfeld
www.vimeo.com/user7165278
# Smart and Flexible Materials

## 100+ materials samples

**001**  
**Mallas Metálicas:** Stainless steel mesh in different geometries  
www.twentinox.com

**002**  
**X-Tend:** Stainless steel elastic mesh  
www.carlstahl.com

**003**  
**Golf Romeo:** Woven stainless steel flat wire mesh  
www.twentinox.com

**004**  
**Cubit:** 3D honeycomb-structured fabric  
www.asahi-kasei.co.jp

**005**  
**Deflexion S-Range:** 3D spacer polyester fabric, silicone-coated  
www.dowcorning.com

**006**  
**3D Textile:** 3D technical fabric  
www.cetex.de

**007**  
**Spacetec:** Three-dimensional polyester fabric  
www.heathcoat.co.uk

**008**  
**Azur:** Spiral tube  
www.alfaflex.fr

**009**  
**Alfavac PU-XL:** Plastic and metal coating  
www.alfaflex.fr

**010**  
**Flexible Tube:** Steel and titanium flexible tube  
www.carniaflex.it

**011**  
**Incubo:** Carpet made from recycled rubber and wool  
www.ruckstuhl.com

**012**  
**Welding solution:** Rolled fabric and padding (foam) manufactured using electro-welding  
www.gabriel.dk
<table>
<thead>
<tr>
<th>Page</th>
<th>Material/Description</th>
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| 013  | **3D-Tex Standard:**<br>3D fabric made from polyester, Lycra and PA with PVA resin  
www.mayser.de |
| 014  | **Macmat R acier:**<br> Wire-reinforced three-dimensional geotextile mesh  
www.maccaferri.fr |
| 015  | **Mondaplen:**<br> Expanded polyethylene  
3D packaging  
www.grifal.it |
| 016  | **Calypso:**<br> Wire mesh made from steel and silicone  
www.luxon.fr |
| 017  | **Kaynemaile KML22:**<br> Seamless polycarbonate chainmail  
www.kaynemaile.com |
| 018  | **Juta:**<br> Stainless steel and jute fabric  
www.ttnrossi.it |
| 019  | **SL / Chainex:**<br> Stainless steel fluid mesh  
www.cottedemailles.fr |
| 020  | **A-1518:**<br> Metallic fabric with transparency effect  
www.naturtex.es |
| 021  | **TamiFerro:**<br> Carpet made from paper (60%), cotton (10%) and steel (30%)  
www.naturtex.es |
| 022  | Not on display in Melbourne exhibition |
| 023  | **Qualiflex:**<br> Panel for bending  
www.rougier.fr |
| 024  | **Foldtex:**<br> Ultra-lightweight folding board  
www.foldtex.com |
| 025  | **Feltro-Legno:**<br> Carpet made from felt strips and wooden slats  
www.ruckstuhl.com |
| 026  | **Legno-Legno:**<br> Woven stainless steel flat wire mesh  
www.ruckstuhl.com |
| 027  | **MarineDeck Exterior:**<br> Polyurethane composite  
www.stazo.nl |
| 028  | **Antislip:**<br> Anti-slip mosaic,  
100% recycled glass  
www.reviglass.es |
| 029  | **Unibamboo:**<br> Bamboo slab with latex backing  
www.moso.eu |
| 030  | **Baltek SB series:**<br> Balsa wood, treated, controlled drying, with excellent properties of stiffness and tensile strength  
www.corematerials.3Acomposites.com |
| 031  | **Bambú en rollos:**<br> Bamboo slats, woven or glued with textile backing  
www.moso.eu |
| 032  | **Honeycomb Ceiling:**<br> Honeycomb cells with non-woven material  
www.chenal.com |
| 033  | **Kvadrat Clouds:**<br> Wool-made three-dimensional tile concept  
www.kvadrat.dk |
| 034  | **Tapis Natural Wood:**<br> Wooden carpet  
www.naturalww.com |
| 035  | **Flexipan:**<br> Flexible wooden board  
www.zanzibar.be |
| 036  | **Ekobe:**<br> Coconut mosaic  
www.ekobebrasili.com |
| 037  | **Flexibrick:**<br> Flexible ceramic fabric with an internal steel structure  
www.flexibrick.es |
| 038  | **Wood-Skin™:**<br> Jointed wooden structure  
www.wood-skin.com |
| 039  | **Ligneah:**<br> Wood flake fabric  
www.mymantrasrl.com |
| 040  | **Folding A-Part by Mika Barr:**<br> Three-dimensional fabric by customizable silk-skin printing  
www.mymantrasrl.com |
401
**Conductive Elastic Tape:**
Conductive elastic tape made of copper, PET and elastomer
www.amohr.com

402
**Creadesign:**
Flocked stretched polymeric fabric
www.housereform.es

403
**Impresa:**
Stretched polymeric fabric printed with patterns, photos and images
www.barrisol.com

404
**Siliconcell:**
Open – or closed – cell silicone sheets, coils or rods
www.eurofoam.com

405
**Kmat:**
Geotextile plastic
www.temagroup.it

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406
**Plasticana:**
Hemp plastic
www.plasticana.com

407
**Technogel:**
Polyurethane gel for comfort applications
www.technogel.it

408
**Espuma Arandipur:**
Polyurethane foam boards of gradual density
www.arandipur.com

409
**FP:**
Lightweight and flexible wooden veneer
www.albeflex.it

410
**Fiama:**
Flamed stainless steel fabric
www.ttmrossi.it

411
**Lizard:**
Stainless steel embossed fabric
www.ttmrossi.it

412
**M&M, M&M Rio:**
Stainless – stainless, brass and copper metallic fabric
www.ttmrossi.it

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413
**Cangiante:**
Metallic textile made of different materials, with an iridescent effect
www.ttmrossi.it

414
**Spiga:**
Stainless steel fabric
www.ttmrossi.it

415
**River, Mini River:**
Stainless steel 51%, 49% opened fabric
www.ttmrossi.it

416
**SpaceFab:**
Three-dimensional fabric
www.zellner-textil.de

417
**Flexible Stone:**
Ultrathin genuine stone surface over cellulose fabric
www.villanileonello.com

418
**Flexible Cork:**
Flexible cork fabric, possibility of surface printing
www.villanileonello.com

419
**AmpliTex® flax braids:**
Braided flax tubes
www.bcomp.ch

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420
**Clay panels incorporating phase-change materials (PCM):**
Clay panels incorporating phase-change materials (PCM)
www.lehmorange.de

421
**OLED:**
Light panels in sheets comprised of organic layers
www.lumiotec.com
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<th>Page</th>
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<th>Description</th>
<th>Website</th>
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<tr>
<td>062</td>
<td>Smart and Flexible Materials</td>
<td>Asi Thru 10: Photovoltaic glass</td>
<td><a href="http://www.schott.com">www.schott.com</a></td>
</tr>
<tr>
<td>063</td>
<td>Smart and Flexible Materials</td>
<td>APC Piezoelectro 840: Navy Type-1 piezoelectrics, different shapes and sizes</td>
<td><a href="http://www.americanpiezo.com">www.americanpiezo.com</a></td>
</tr>
<tr>
<td>064</td>
<td>Smart and Flexible Materials</td>
<td>Vanzaclu: Photoluminescent pigments</td>
<td><a href="http://www.easyworld.co.kr">www.easyworld.co.kr</a></td>
</tr>
<tr>
<td>065</td>
<td>Smart and Flexible Materials</td>
<td>Thermochromic Paint: Thermochromatic painting</td>
<td><a href="http://www.racingcolors.com">www.racingcolors.com</a></td>
</tr>
<tr>
<td>066</td>
<td>Smart and Flexible Materials</td>
<td>Photoluminescent Paint: Photoluminescent painting</td>
<td><a href="http://www.racingcolors.com">www.racingcolors.com</a></td>
</tr>
<tr>
<td>067</td>
<td>Smart and Flexible Materials</td>
<td>Conductive Paint: Conductive paint</td>
<td><a href="http://www.racingcolors.com">www.racingcolors.com</a></td>
</tr>
<tr>
<td>068</td>
<td>Advanced Materials and Technologies</td>
<td>Minatec®: Conductive pigment for antistatic covering</td>
<td><a href="http://www.merck.com">www.merck.com</a></td>
</tr>
<tr>
<td>069</td>
<td>Advanced Materials and Technologies</td>
<td>Iriotec® 9000: IR-reflecting pigments</td>
<td><a href="http://www.merck.com">www.merck.com</a></td>
</tr>
<tr>
<td>070</td>
<td>Advanced Materials and Technologies</td>
<td>Wicking Windows™: Technology to avoid wet sensation on cotton</td>
<td><a href="http://www.cottoninc.com">www.cottoninc.com</a></td>
</tr>
<tr>
<td>071</td>
<td>Advanced Materials and Technologies</td>
<td>TransDRY®: High-performance technology for humidity management on cotton</td>
<td><a href="http://www.cottoninc.com">www.cottoninc.com</a></td>
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<tr>
<td>072</td>
<td>Advanced Materials and Technologies</td>
<td>Tough cotton®: Anti-wrinkle technology for cotton fabrics</td>
<td><a href="http://www.cottoninc.com">www.cottoninc.com</a></td>
</tr>
<tr>
<td>073</td>
<td>Advanced Materials and Technologies</td>
<td>Coldblack®: Anti-heating technology for textile, protects from UV rays</td>
<td><a href="http://www.schoeller-textiles.com">www.schoeller-textiles.com</a></td>
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<tr>
<td>074</td>
<td>Advanced Materials and Technologies</td>
<td>Schoeller®-PCM™: PCM material microencapsulated in fabric</td>
<td><a href="http://www.schoeller-textiles.com">www.schoeller-textiles.com</a></td>
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<tr>
<td>075</td>
<td>Advanced Materials and Technologies</td>
<td>Nanosphere: Self-cleaning nanofinish for textile</td>
<td><a href="http://www.schoeller-textiles.com">www.schoeller-textiles.com</a></td>
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<tr>
<td>076</td>
<td>Advanced Materials and Technologies</td>
<td>Water Repellent: Water-repellent finish for fabrics</td>
<td><a href="http://www.fabricato.com">www.fabricato.com</a></td>
</tr>
<tr>
<td>077</td>
<td>Advanced Materials and Technologies</td>
<td>Fat and Oil Repellent: Fat- and oil-repellent finish for fabrics</td>
<td><a href="http://www.fabricato.com">www.fabricato.com</a></td>
</tr>
<tr>
<td>078</td>
<td>Advanced Materials and Technologies</td>
<td>Comfort-fresh: High-absorbency (sweat) and water-protection finish for fabrics</td>
<td><a href="http://www.fabricato.com">www.fabricato.com</a></td>
</tr>
<tr>
<td>079</td>
<td>Advanced Materials and Technologies</td>
<td>Vitamina y microencapsulados: Fabric finish for microencapsulation</td>
<td><a href="http://www.schoeller-textiles.com">www.schoeller-textiles.com</a></td>
</tr>
<tr>
<td>080</td>
<td>Advanced Materials and Technologies</td>
<td>Static Energy Reducer: Static-energy reducer finish for fabrics</td>
<td><a href="http://www.schoeller-textiles.com">www.schoeller-textiles.com</a></td>
</tr>
<tr>
<td>081</td>
<td>Advanced Materials and Technologies</td>
<td>Antibacterial: Permanent antibacterial finish for cotton and blends</td>
<td><a href="http://www.fabricato.com">www.fabricato.com</a></td>
</tr>
<tr>
<td>082</td>
<td>Advanced Materials and Technologies</td>
<td>Waterproof – Breathable: Humidity protection and water vapour allowance finish for fabrics</td>
<td><a href="http://www.fabricato.com">www.fabricato.com</a></td>
</tr>
<tr>
<td>083</td>
<td>Advanced Materials and Technologies</td>
<td>Anti-wrinkle: Anti-wrinkle resin-based finish for fabrics</td>
<td><a href="http://www.fabricato.com">www.fabricato.com</a></td>
</tr>
<tr>
<td>084</td>
<td>Advanced Materials and Technologies</td>
<td>Vector-attack-preventing: Vector-attack-preventing finish for fabrics</td>
<td><a href="http://www.fabricato.com">www.fabricato.com</a></td>
</tr>
<tr>
<td>085</td>
<td>Advanced Materials and Technologies</td>
<td>Chlorine Resistant: Textile finish that ensures colour fastness when chlorine-washed</td>
<td><a href="http://www.fabricato.com">www.fabricato.com</a></td>
</tr>
<tr>
<td>086</td>
<td>Advanced Materials and Technologies</td>
<td>Fire Retardant: Flammable treatment for fabrics</td>
<td><a href="http://www.fabricato.com">www.fabricato.com</a></td>
</tr>
<tr>
<td>087</td>
<td>Advanced Materials and Technologies</td>
<td>Thermoelectric board: Thermoelectric board</td>
<td><a href="http://www.peltiermodules.com">www.peltiermodules.com</a></td>
</tr>
<tr>
<td>088</td>
<td>Advanced Materials and Technologies</td>
<td>NNF CERAM® - Al2O3: Alumina (Al2O3) nanofibers</td>
<td><a href="http://www.pardam.cz">www.pardam.cz</a></td>
</tr>
<tr>
<td>089</td>
<td>Advanced Materials and Technologies</td>
<td>NNF CERAM® - TiO2: Titanium dioxide (TiO2) nanofibers</td>
<td><a href="http://www.pardam.cz">www.pardam.cz</a></td>
</tr>
</tbody>
</table>
090
NnP CERAM® - CeO2:
Ceium dioxiide (CeO2) nanofibers
www.pardam.cz

091
NnP CERAM® - CeZrO4:
Ceium Zirconium bi-oxide (CeZrO4) nanofibers
www.pardam.cz

092
NnP CERAM® - SiO2:
Silica (SiO2) nanofibers
www.pardam.cz

093
NnP CERAM® - ZrO2:
Zirconia (ZrO2) nanofibers
www.pardam.cz

094
NnP CERAM® - LTO:
Lithium titanate (LTO) nanofibers
www.pardam.cz

095
NnP CERAM® - WO3:
Tungsten trioxide (WO3) nanofibers
www.pardam.cz

096
NnP MBRANE® - PA6:
Nylon (PA6) nanofibrous membrane
www.pardam.cz

097
NnP MBRANE® - PUR:
Polyurethane (PUR) nanofibrous membrane
www.pardam.cz

098
NnP MBRANE® - PA6/PUR:
Nylon/Polyurethane (PA6/PUR) nanofibrous membrane
www.pardam.cz

099
GANF Carbon Nanofibres:
Carbon nanofibres in different formats
www.grupoantolin.com

100
Graphene Oxide Suspension:
Graphene oxide suspension
www.granphnanotech.com

101
DuraAct:
Flexible piezoelectric transducer
www.piceramic.com

102
Tarjetas “Tocar & Revelar”:
Temperature-changing colour cards
www.surisa.es

103
Reverlink:
Self-healing material
www.arkema.com

104
Comfortemp:
Thermoregulatory non-woven fabric
www.freudenberg-nw.com

105
Spaceloft:
Flexible aerogel mat with excellent thermal properties
www.aerogel.com

106
Flexinol®:
Shape-memory nickel-titanium wire
www.dynalloy.com

107
Lunabrite Trim:
High performance photoluminescent tube
www.lunabrite.com

108
EnerGlo:
Phosphorescent, waterproofing and breathable textile coating
www.energlo.ca

109
Nitinol:
Shape-memory nickel-titanium alloy
www.outlast.com

110
Outlast® Adaptive Comfort®:
Phase Change Material
www.outlast.com

111
ChroMyx:
Temperature-changing colour materials
www.chameleonint.com

112
PowerMembrane:
Photovoltaic flexible modules
www.marcegaglia.com

113
Organic Solar Cells:
Flexible photovoltaic cells from various nanoscale organic layers
www.nanosyd.sdu.dk

114
Luminis:
Photoluminescent mosaic,
100% recycled glass
www.reviglass.es

115
CeeLite:
Electroluminescent flexible,
semi-rigid or rigid sheet
www.ceelite.com
Credits

**Materfad Curators:** Valérie Bergeron and Javier Peña

**Materfad Assistants:** Aline Charransol and Ainhoa Pastor

**RMIT DRI Exhibition Team:** Professor Swee Mak, Michele Azzopardi, Kylie Wickham, Simone Steele, Kaushali Seneviratne and Mark Robbins.

**Materfad and RMIT Consultant:** Barbara Marshall

**RMIT Design Hub Curatorial Team:** Kate Rhodes, Fleur Watson, Nella Themelios, Erik North, Kate Riggs, Audrey Thomas-Hayes, Tim McLeod, Tom Muratore, Marcin Wojcik, Sam Fagan.

**Exhibition Design Team**

Exhibition Design: Cate Hall
Graphic Design: Sean Hogan, Trampoline
Vinyl Production: Boom Studio
Book Production: Bambra Press

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**Thank you:**
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**Smart Flexibility: Advanced Materials and Technologies** is an international touring exhibition curated by Materfad, Barcelona and presented as part of the Design for Impact festival organized by RMIT’s Design Research Institute.

**RMIT Design Hub**

**Smart Flexibility: Advanced Materials and Technologies**

Materfad, Barcelona’s materials centre

24 July – 9 August 2015

**Opening Hours**

Tuesday – Friday 11am – 6pm, Saturday 12 – 5pm
Closed Sunday, Monday and Public Holidays

**Smart Flexibility is open on:**
Saturday 25 and Sunday 26 July (Open House Melbourne) 10 – 4pm
Sunday 9 August 2015 (RMIT Open Day) 10 – 4pm

**Admission is free.**

**RMIT Design Archives**

**By Appointment:**

The RMIT Design Archives is located on the western side of the forecourt.
Contact Archives to make an appointment to view the collection:
www.rmitdesignarchives@rmit.edu.au

**Location:**
Corner Victoria and Swanston Streets, Carlton, 3053
Hello.designhub@rmit.edu.au
www.designhub.rmit.edu.au

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