3D BUSINESS

REINVENTING BUSINESS THROUGH 3D TECHNOLOGIES

ORGANIZED BY

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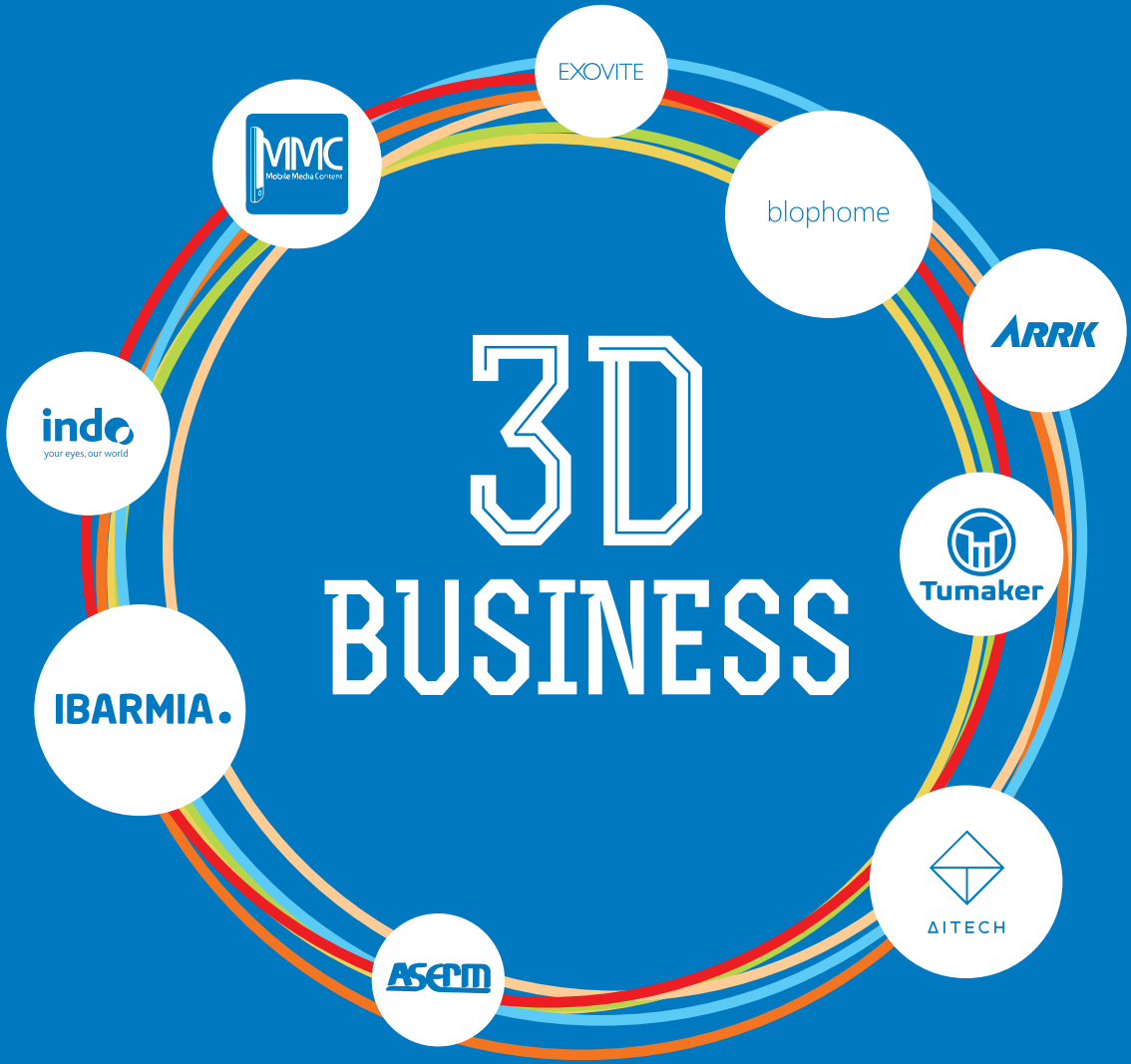
IN COLABORATION WITH

Parc UPC

FUNDACIÓ cim UPC BARCELONATECH

#24co-session

November 16th 2015


EXOVITE
MMC
Mobile Media Content
blophome
ARRK
indo
your eyes, our world
3D
BUSINESS
Tumaker
IBARMIA.
AITECH
ASERM

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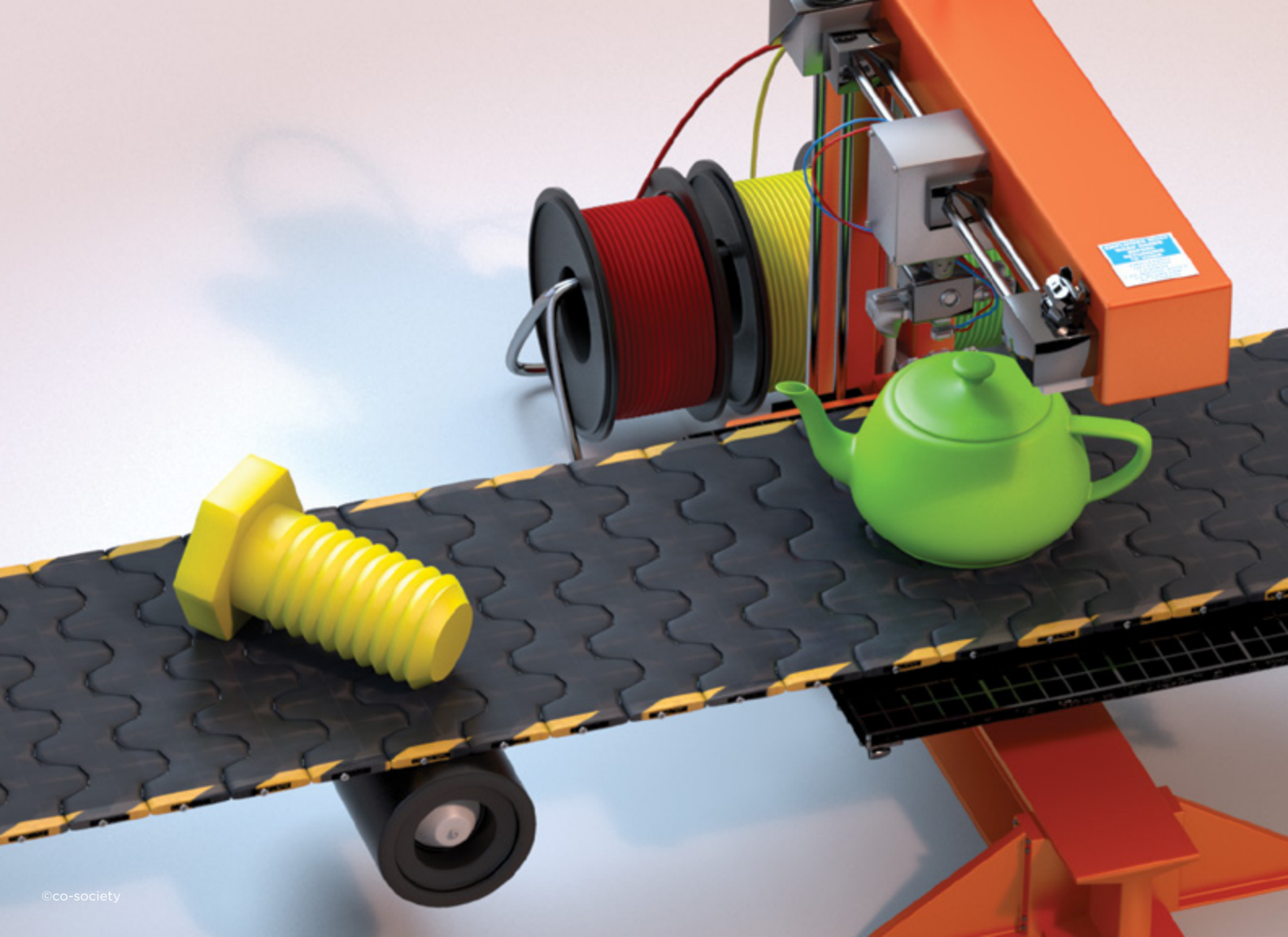
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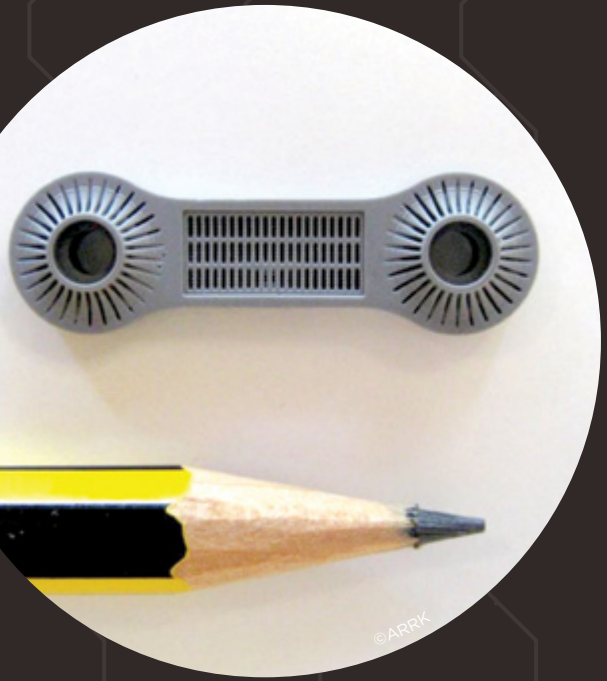
3D technologies are already changing the way in which we come up with, design and even produce products and services.

Co-Society wanted to dedicate this Co-Session to exploring the way in which this type of technology can be used to reinvent businesses. This is a unique opportunity to get to know companies and organisations first-hand, be they start-ups or established companies, which have already introduced additive manufacturing in their processes, or that have even made 3D their core business.

Companies that displayed and demonstrated their proposals were selected to cover different moments in the value chain and a wide range of sectors: retail, health, industry, entertainment...

One of the real success stories is that of our hosts for this meeting: Fundació CIM, an organisation attached to the Universitat Politècnica de Catalunya, has grown into a cutting-edge technology centre in 3D printing technologies, combining its tasks of training, research and technological transference with a range of engineering and manufacturing services. From its facilities at Parc UPC in Castelldefels (Barcelona), Fundació CIM accompanies companies and society as a whole in an ongoing fourth industrial revolution which needs the right tools to make this possible. From the very beginning they have opted for open innovation and open hardware.

ON THE EDGE: SERVICE PITCHES



ARRK

Industrial prototyping for businesses' day-to-day work

With almost 70 years of history, ARRK has converted an essential part of its core business to production using 3D printing. "We are dedicated to taking products and designs off the screen and making them tangible." A fine example of 3D printing for industrial application, ARRK has the technology to print pieces of a certain size down to the most minuscule, and in both high and low volume runs. Its engineering services include 3D printing of industrial prototypes which notably help reduce the time-to-market and prevent money from being lost from production errors or due to poorly focused projects.

AITECH

Trying on clothes without taking anything off

Not all 3D technology is necessarily related to printing. Aitech offered another approach to the 3D business with a presentation on its computerised vision technologies with applications within the retail sector. Based on the use of depth sensors similar to those used by the Kinnect console, Aitech has developed AiMirror, technology that can be used in virtual changing rooms or in interactive advertising campaigns using digital signage devices.

EXOVITE

3D printing applied to health

This start-up is developing a clinical immobilisation system that replaces the traditional plaster. It is a totally personalised piece, printed in 3D in 30 seconds based on a scan of the patient's limb and to which rehabilitation features are added through electrostimulation of the affected muscles. Exovite also showed other trends in 3D printing in the medical and health field, such as the democratisation being provided by giving access to prostheses of all kinds, the costs of which were previously prohibitive for most people when manufactured by traditional methods.

BLOPHOME

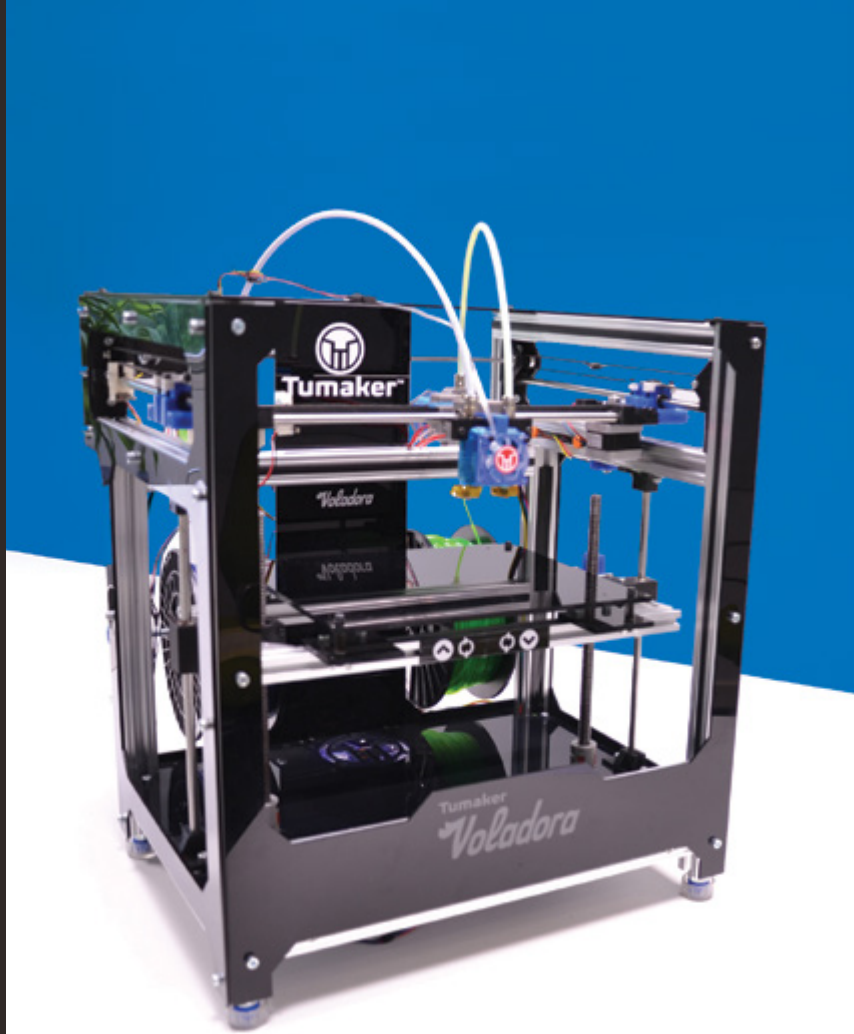
Design your room in 3D with furniture from your favourite brand

Blophome has developed an interior design application that offers professionals in this sector a way to create three-dimensional environments without the need to know how to use the type of 3D software which up to now was too complex or technical. Users of this application can create three-dimensional environments to reproduce their interior design proposals or creations by simply selecting from over 200,000 objects created in 3D by manufacturers of furniture, doors and windows, bathrooms and all kinds of accessories, etc. and dragging them to a main screen.

TUMAKER

Making 3D printing mainstream

These days, a 3D printer is still too difficult to use for most potential users. Tumaker wants to democratise 3D printing, offering "the easiest 3D printer in the world", which is as easy to use as a microwave oven or MP3 player. A 3D printer is no more and no less than a device to reproduce a new category of contents: objects. With this approach, Tumaker seeks partnerships with companies interested in offering this type of content, linking it to their brands in the areas of hobbies and interests.



MOBILE MEDIA CONTENT

Buy tickets, knowing what the view will be like from your seat

3D applied to the world of ticketing means that we can buy tickets for a sports match or cultural event, giving a faithful reproduction of the view we will get from that seat, according to its location within the stadium, auditorium or theatre. The technology developed by Mobile Media Content is also being used to analyse architectural projects in this type of venue, and to detect and correct potential errors related to poor visibility during matches and performances.

IBARMIA

Additive manufacturing also comes to heavy industry

Ibarmia is a machine tool manufacturer that decided to enter the world of additive manufacturing to help meet the growing demand for this type of production in sectors like the aerospace industry, power generation and the manufacture of moulds and dies. After analysing the different technologies available, the company decided upon laser metal deposition using powder (LMD-p) due to its ease of integration with the machinery already available, easier programming and more precise results.

HP

The present and near future of 3D technologies

3D printing has generated many myths. There is still a long way to go to until we can make a much vaunted industrial revolution based on this type of new technologies a reality. HP announces that it is willing to shorten this journey with Multi Jet Fusion, a revolutionary new technology that will be available on the market in 2016 and which promises to answer the current challenges of 3D, printing pieces at a rate 10 times faster than current printers with the same quality as those made using moulds.

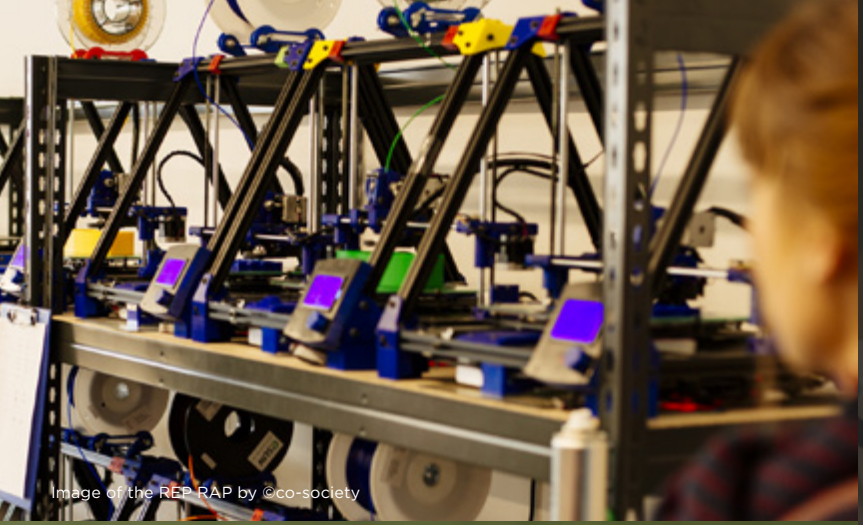


Image of the REP RAP by ©co-society

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WORKSHOP EXCHANGE

After hearing these proposals and initiatives, the members of Co-Society had time to interact face to face with the representatives of these companies in order to follow up on any questions that came up during the presentation, get answers in greater detail and have a chance to touch some of the products and prototypes shown, with the objective to perhaps explore possible collaboration in the future...

VISIT TO FUNDACIÓ CIM'S FACILITIES

Whilst the Exchange Workshop was taking place we were also able to take advantage of the venue for this Co-Session to visit our host's facilities. Set out as an educational project but still aspiring to financial sustainability, Fundació CIM has a site of over 1,500 m2 distributed across different halls where different activities take place, such as a production line with rapid manufacturing equipment and the "farm" of self-replicating 3D printers participating in the international project RepRap.

Under the name BCN3D Technologies, the organisation combines activities designed to develop its own product. BCN3D sold its 1,000th 3D printer in 2014. The rapid growth in demand and some ambitious targets suggest that it will be manufacturing printer number 10,000 in 2016. Some of the latest orders received by the Foundation are a request to manufacture the first series of wing mirrors for the Ferrari Berlinetta F12, printing scale models for several prestigious architecture studios, protection for the lower mounting of the Audi Q3 and the production of personalised glasses for INDO (see below). At the same time, CIM continues to develop future projects such as research into new materials, multimaterial printing or setting up an online platform for 3D printing.

ALREADY THERE: COMPANIES APPLYING 3D NOW

HOSPITAL SANT JOAN DE DÉU

Hospital Sant Joan de Déu Is currently evaluating the use of 3D printing in the practice of surgical oncology.

Dr. Lucas Krauel from the Department of Paediatric Surgery has used 3D printing of tumours on various occasions in order to plan and simulate the surgical removal of a tumour prior to surgical intervention. This practice has proved to be efficient in complex cases in which the tumours are dangerously entangled with the vital organs. Printing is done in different materials for better simulation of different consistencies, as well as anatomical relationships between tumours and the surrounding organs. The results are positive, but certain barriers, such as cost, improving the materials to create a printed model even more similar to the organs themselves, or simplifying the process of creating virtual models from medical images and scanners still need to be overcome.

©INDO

INDO

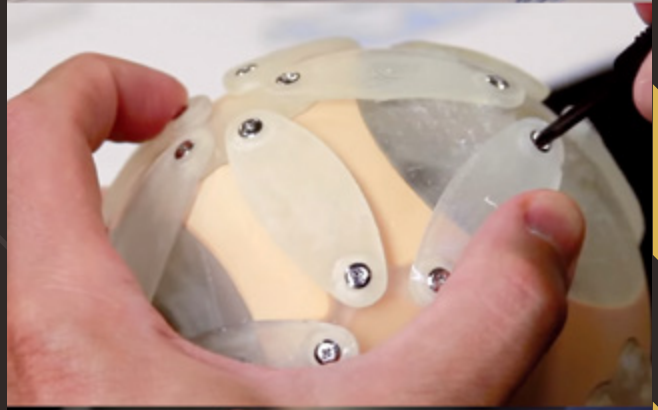
This optics manufacturer has joined a consortium that conducted an innovation project financed by a European Union framework program.

The main aim of the "Made for You" project was to explore new business models based on customised manufacturing of products. The result is a concept test of the technologies and processes needed for Indo to be able to offer frames adapted to the tastes and ergonomic features of each customer. The process starts by scanning the wearer's face to create a virtual model which can be used to try on the spectacle designs before purchase; this could even be done online. This form of production could do away with large numbers of frames that remain unsold each season. It also opens the door to business models in which the customer is charged for the use of each design and not so much for the finished product.

ASERM

Asociación Española de Rapid Manufacturing (ASERM) ended the session by updating attendees on the current status of these new technologies and their market.

We therefore learned that sales of materials and machinery needed for additive manufacturing are experiencing annual growth of around 30%. Asia and Europe are virtually on a par in terms of the number of systems installed, with a percentage of the global total of about 28%, far below the USA, which is the leader with 40%. But in what was perhaps the most significant statistic in the presentation, we learned that this year the main industrial application of 3D printing has been the manufacturing of functional parts, at 30%, thereby exceeding for the first time its use in producing prototypes that up to now had been at the top of this list. Is this a further sign of the potential of 3D printing to disrupt the type of manufacturing that we have known for the last couple of centuries?



CONNECTING SMART TEAMS IN DIFFERENT INDUSTRIES TO GENERATE NEW BUSINESS.

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