Big Data analytics and artificial intelligence: Identifying new trends and create knowledge from consumer, science and machine data

Special Interest Group on Knowledge Management (SIG KM)
23 – 24 November 2017
Philips Center in Amsterdam, NL

Summary

Unprecedented access to data and information plus the rise of emerging digital technologies are rapidly enhancing the ways companies can create value. Big data analytics can enable companies to convert extraordinary volumes of data efficiently into new knowledge. Researchers and scientists combine statistics and machine learning in a way to integrate theory and heuristics and to distill relevant new knowledge. Digital technologies allow extraction and use of new knowledge and visualization of that extracted knowledge.

In our March 2017 meeting hosted by FrieslandCampina in Wageningen, we shared approaches and solutions for efficient technology intelligence, how to successfully retrieve information, identify and assess new technologies and how to disseminate newly acquired knowledge.

In our November meeting, we will explore approaches and solutions for how companies are applying a combination of skills including statistics, applied mathematics, advanced machine learning algorithms, artificial intelligence and data visualization to identify new trends and extract new knowledge for innovative business solutions.

As a participant, you will have the opportunity to learn from experts and actively share your challenges, experiences and solutions in big data analytics, trend analysis and knowledge extraction in carousel discussions.

Issues addressed

- Getting value from big data collection and analytics to drive innovation roadmap
- Artificial Intelligence and the future of Cognitive Technologies for R&D
- Big data analytics and modelling to link consumer product experiences to design, manufacturing and quality management
- How data analytics shape the development of products, processes, supply chains and business models
- Evaluation of trends from Machine data for virtual modelling / virtual plant simulation

Target Audience

Knowledge Manager in R&D, Operations or Business Units; Innovation Manager; IT Manager

Chairman
Rémy G. Béguin
Former Corporate R&D Knowledge Manager, Nestlé

Online registration until 13 November 2017 - http://www.eirma.org
Thursday 23 November 2017

8:00 Gathering at the hotel lobby, walking to the venue
8:30 Registration & Welcome coffee
8:50 - 9:00 Welcome and latest news at EIRMA
   Aurélie Jablonski, Head of Programme and Members Relations, EIRMA

9:00 – 9:30 Introduction by chairman
   - Introduction to the current session
   - Brief summary from last meeting
   - Presentation of the speakers of the day
   - Participants’ presentation round
   Rémy Béguin, Former Corporate R&D Knowledge Manager, Nestlé

9:30 – 10:00 Why knowledge management is key at Philips, and how approach it
   - Driving creation and sharing of knowledge in a uniform way
   - Providing process, governance and infrastructure for Enterprise Knowledge Management
   - Dealing with the varying needs from Businesses, Markets and Functions
   - Supporting processes end to end
   - Key steps to take to let Philips know what Philips knows to benefit our customer
   Bart Luijten, Head of Enterprise Knowledge Management, Philips

10:00 – 10:45 Cognitive Technologies for R&D - The Next Horizon
   Cognitive Computing is the new frontier of the information age. Cognitive computing turns our trusted programmable machines, into cognitive companions. The systems are not programmed to simply achieve a task, but rather they are developed to reason with us in ways that are natural for us. They can debate with us, test our ideas, as these are expressed in natural language, against incredible volumes of data and give us insights that ultimately free us and let us focus on and use our deepest of human capabilities: intuition and intelligence.
   Cognitive systems mimic the way we humans reason, allowing us to express in unstructured ways, such as speech and vision in order to achieve in a small fraction of the previously required time feats such as pharmaceuticals and materials discovery, attacking cancer, understand complex natural ecosystems as well as man-made ecosystems such as the economy and technology.
   We will discuss the remarkable progress of cognitive computing and give a glimpse of what the future may look like.
   Costas Bekas, Manager, Foundations of Cognitive Computing, IBM Research

10:45 – 11:15 Coffee Break
11:15 - 12:00  Presentation from DSM about Data Analytics & Process Modeling
DSM launched a Big Data program to collect and build capabilities, create collaborations among domains to achieve systemic optimisations, and establish a toolbox of technical competences including multivariate statistics, neural networks, genetic algorithms, optimisation, and heuristics. (tbc)
*Telli Van Der Lei, Senior Scientist, DSM*

12:00 – 12:45  How to create more value out of data
- Combining own, customer and ecosystem data
- Developing products wrapped with data
- Developing additional services based on data
- Developing data based services for new target groups
- Lessons learned from the journey
*Rijn Buve, Director of Technology and Architecture, TomTom (tbc)*

12:45 – 14:15  Lunch and Innovation Tour at Philips

14:15 – 15:00  Pragmatic knowledge extraction from consumer/user data
- Tour of the uGrow data wall
- Narrative to humanize consumer data
- Identifying dormant value in data in hospital user log files
- How that drives the innovation roadmap
- Pragmatic approaches to bring context to data
*Kacy Harding, Head of Data Analytics, Connected Digital Platforms and Propositions, Philips*

15:00 – 15:30  Coffee Break

15:30 – 16:15  How big data analytics and modelling can intimately link consumer product experience to design, manufacturing and quality management
We will discuss how to link data from different origins and functions to draw a guiding thread with consumers along the innovation / renovation process and deliver every day consumer expected quality.
We will go through potential strategic and operational business impact of such approaches and associated challenges to make it happen.
On potential strategic business impacts we will envisage growth and cost savings opportunities.
On potential operational business objectives we will tackle the innovation / renovation process efficiency through lean design and consumer centric quality management.
Looking at challenges we will cover data management, modelling and potentials of artificial intelligence vs causal modelling.
At the end we will open the discussion towards full cross-functional data integration from product design to operational performance.
Alexandre Voirin, Head Consumer Centricity in R&D, Nestlé

16:15 – 17:45
Carousel session,
The participants will split into groups to discuss their experiences, challenges and solutions. We will change the groups for each question in order to help your networking.
30 minutes for each question:
- How to get started with Big Data Analytics and Artificial Intelligence?
- How to use big data analytics and AI to create and disseminate knowledge for product and process design?
- Knowledge Management challenges and issues you are facing in your company?

17:45 – 18:00
Wrap up by chairman and closure of first day

18:00
Back to the Hotel

19:00
Gathering at Hotel Lobby and heading for restaurant

19:15
Dinner

22:00
Back to the hotel
Friday 24 November 2017

8:00    Gathering at the hotel lobby, walking to the venue

8:30    Welcome coffee

8:45 – 9:30    Intellectual Property Analytics for Strategic Decision Making

Big data is increasingly available in all areas of manufacturing and operations. Increased data availability presents an opportunity for better decision making, to introduce the next generation of innovative and disruptive technologies. While IP data is abundantly available, for many firms still remains a problem on how they can fully use this rich source of technical information to complement decision making processes in technology development processes. We build an IP Decision Support tool, which uses artificial neural networks to analyse IP data and classify a current on-going technology project as successful or not. This tool will complement strategic decision making by improving the human judgement when making technology decisions.

Leonidas Aristodemou, Technology and Innovation Management Researcher, Institute for Manufacturing, University of Cambridge

9:30 – 10:15    Factory Digital Twin to exchange knowledge between R&D and Operations

- Virtual Product / Process commissioning to build knowledge in R&D
- Virtual plant simulation to confirm the product / process performance in R&D
- Digital Manufacturing dossier: Plant Digital twin & Big data for New product industrialization to ease the knowledge transfer from R&D to Operations
- Connected Factory Digital twin and Big data analytics to get real-time feedback to design from Operations to R&D

Taoufik Arif, Digital & Advanced Analytics expert, Nestlé

10:15 - 10:45    Coffee Break

10:45 – 11:30    Solution Knowledge Management, essential in becoming a Solutions company

- Why moving to solutions requires new knowledge
- Needs from users and capabilities to meet these, key use cases
- Building a formal Knowledge Base for Solutions in the Solutions Warehouse
- Building the community for Solutions
- Governance of Knowledge Management for Solutions

Rob de Graaf, Knowledge Management Workstream Lead, Solutions Transformation Program, Philips

11:30 - 12:15    Debrief of carousel session

Chaired by Rémy Béguin, Former Corporate R&D Knowledge Manager, Nestlé
12:15 – 13:00  Open Discussion on proposed program for 2018  
Chaired by Nicolas Dubuc, Knowledge Manager, Michelin

13:00 – 13:30  Roundtable Fishbowl conclusion

13:30 - 15:00  Lunch

15:00  End of the meeting
**PRACTICAL ARRANGEMENTS**

**Venue**
Philips Center - Frederik Philips Room  
Amstelplein 2  
NL-1096 BC Amsterdam  
The Netherlands  
Tel: +31 20 597 7777

**Accommodation**
Hotel Casa Amsterdam.  
Eerste Ringdijkstraat 4  
NL-1097 BC Amsterdam -The Netherlands  
www.hotelcasa.nl  
A block booking with special rates have been secured in the Hotel Casa Amsterdam for the nights of 22 and 23 November 2017.  
The rates for a single room are:  
Single room, € 129,00 incl. breakfast, excl city tax 5%.  
Double room, € 142,50 incl. breakfast, excl city tax 5%

**Dinner**
Address will be provided soon.

**Transportation**
To the hotel:  
**By plane:**  
From Schiphol Airport  
You can take a taxi to the hotel for about €44,-  
You can take the train to Amsterdam Zuid or Amsterdam RAI, from there you have to take Metro 51 (in direction Central Station) to Amsterdam Amstel.  
It is only a 5 minute walk to the hotel. This takes about 30 minutes and the costs are about €2,60 (train) + € 2,80 (1 hour ticket metro) = €5,40. For detailed information, please check [http://9292.nl/en#](http://9292.nl/en#)  
You can also take a shuttle: Connexxion Schiphol Hotel Shuttle. For detailed information, please check [http://www.airporthotelshuttle.nl/](http://www.airporthotelshuttle.nl/)

**By train:**  
From Amsterdam Centraal by metro or by bus: [https://hotelcasa.nl/location/](https://hotelcasa.nl/location/)

**By car:**  
[https://hotelcasa.nl/location/](https://hotelcasa.nl/location/)

To Philips Centre:  
From Schiphol Airport:  
Take a taxi to Amstelplein 2, about € 40  
Take a train to Amsterdam Centraal or Amsterdam Zuid (€3) and then continue by metro to Amstel Station (€2).  
From Amstel Station it is a 5 minute walk  
On Thursday and Friday morning the participants will gather at hotel and walk to Philips Centre.

**Registration**
Please register **as soon as possible** but certainly before 13 November 2017  
The online registration form is available on the EIRMA Website  
The meeting registration fee of **595€** covers the administrative costs, get-together dinner and lunches.

**Your contribution**
Together with the registration confirmation, you will receive a document requesting some information from you, to be shared with us and all participants prior to the meeting, in order to foster open and lively discussions during the event.

**Cancellations**
Cancellation policy: we will refund 100% of the registration fee for cancellations received 2 weeks before the meeting, 50% of the registration fee for cancellations received 1 week before the meeting, 25% of the registration fee for cancellations received 3 days before the meeting. Names may be substituted at any time without charge.
### REGISTRATION FORM

Special Interest Group on Knowledge Management  
23 & 24 November 2017  
Philips Centre, Amsterdam, The Netherlands

8 Online registration available on EIRMA Website: [http://www.eirma.org](http://www.eirma.org)

Please register on-line or return to EIRMA before 13 November 2017 by e-mail to cternest@eirma.org

**Title:** (Prof./ Dr./ Mr./ Mrs.): ……………………………………………………………………………………..

**First Name:** …………………………………………………………………………………………………………

**Last Name:** …………………………………………………………………………………………………………

**Position:** ……………………………………………………………………………………………………………

**Company:** …………………………………………………………………………………………………………..

**VAT number** of paying entity (mandatory for EU members)

If no VAT nr, Official registration number……………………………………………………………………

**Address:** ……………………………………………………………………………………………………………

**ZipCode:** ……………………………………………………………………………………………………………

**City:** ……………………………………………………………………………………………………………

**Country:** ……………………………………………………………………………………………………………

**Tel:** …………………………………………………………………………………………………………………

**Cell:** ………………………………………………………………………………………………………………

**E-mail:** ……………………………………………………………………………………………………………

**Assistant’s e-mail:** ………………………………………………………………………………………………

I will ☐ /will not ☐ attend the meeting on 23 November 2017

I will ☐ /will not ☐ attend the meeting on 24 November 2017

I will ☐ /will not ☐ attend the dinner on 23 November 2017

**Dietary requirements:** ……………………………………………………………………………………………

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**Event’s fee:** 595,00€ (VAT excluded) for members excluded Belgium  
or 719,95€ (VAT included) for Belgian members  

**Early bird fee** (valid until 13 October 2017): 15 % discount  
500,00€ (VAT excluded) for members excluded Belgium  
or 605,00€ (VAT included) for Belgian members  

The meeting registration fee covers the administrative costs, refreshments, visit, lunch and dinner.  
To be paid by Bank Transfer or Credit Cards.  
Our invoices are to be paid within 30 days from date of invoices.

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**Mode of Payment**

- ☐ Bank Transfer  
  Account N° 363-1073576-20  
  ING – Rond Point Robert Schuman 8 – 1040 Brussels - Belgium  
  IBAN: BE28 3631 0735 7620 - BIC: BBRUBEBB

- ☐ Credit Card (Eurocard, Master, Visa, Amex)  
  Card Number: _______ _______ _______ _______ _______ _______ _______ _______ _______ _______ _______  
  Exp. Date: ____/____  
  Security Code: _______ _______

EIRMA, as an international association of Belgian law, is subject to VAT (nr: BE 0847 677 159)

For any further information please contact Mrs. Carine Ternest, EIRMA Operations Team  
Tel. +32 (0)2 233 11 80 - Fax: +32 (0)2 231 08 35 - e-mail: cternest@eirma.org
I would like to make a reservation in Hotel Casa Amsterdam, here are my details:

First & Last Name: _____________________________________
Address & Zip code: _____________________________________
Company Name: _____________________________________
E-mail: _____________________________________
Phone number: _____________________________________
Nationality: _____________________________________
Arrival date: ___________ Departure date: ______________

Room
® Single room, € 129,00 incl. breakfast, excl city tax 5%
® Double room, € 142,50 incl. breakfast, excl city tax 5%

E-mail Address: _____________________________________
Credit Card Type: _______ Credit Card Number: _______________
Credit Card Expiration Date: ____/____/________

Rooms can only be booked with a valid credit card.

Cancellations can be made free of charge till 3PM the day before arrival. No-shows and late cancellations will be charged for the full booking.

Reservations can be made until 8 November 2017. After this date the hotel cannot guarantee a hotel room.

Signature:     Date:

To be sent to info@hotelcasa.nl