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Interview

MetGen expert
Matti Heikkilä
wants to oust
the fossil
economy with
wood-based
innovations



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Early Certainty

Industry concerned over EPO's fast trial for patent examination

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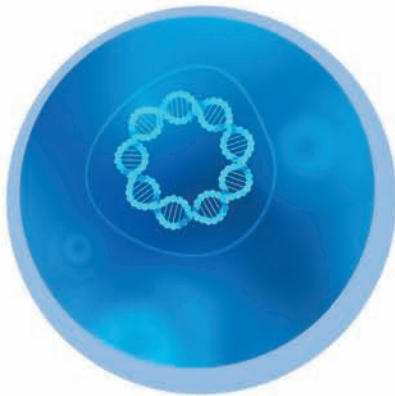
Will DNA phenotyping revolutionise criminal investigation?

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Current trends in serialisation and drug packaging in the EU

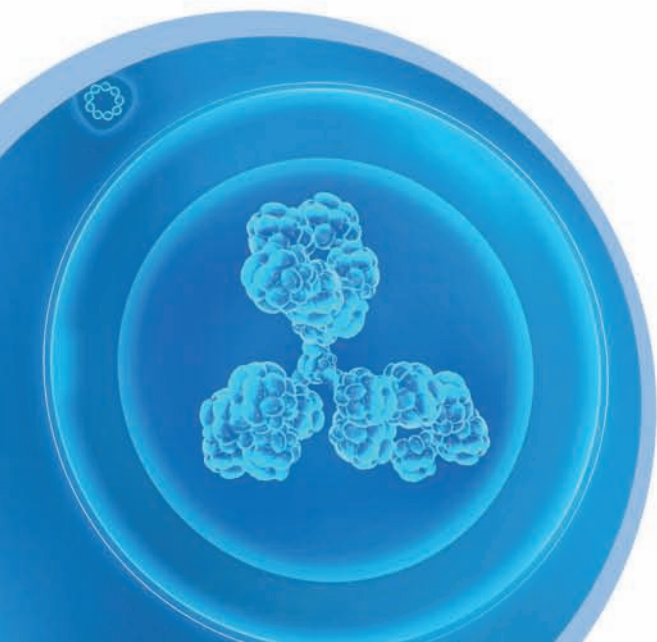
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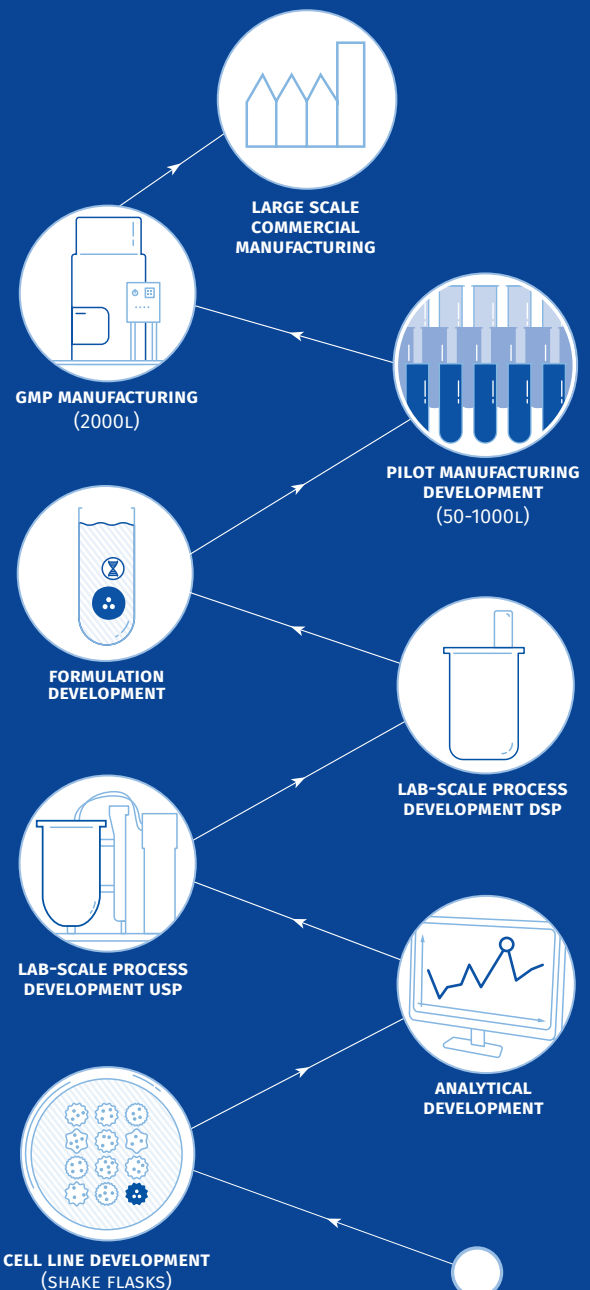
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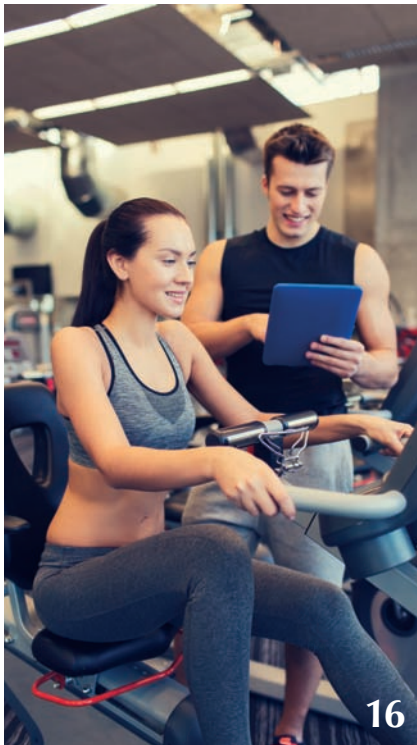
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COVER STORY



Digital health and tailored premiums

Are health apps set to revolutionise the insurance industry? European major Generali believes they are, and is rolling out a programme to reward healthy lifestyles tracked 24/7 by electronic devices. Critics are concerned about consumer protection and potential misuse of the sensitive data. Are we moving towards individualised premiums that could erode the principle of solidarity? EUROPEAN BIOTECHNOLOGY spoke with health experts, insurers and NGOs about the upsides and downsides of a looming technological and ethical conundrum.

INSIGHT EUROPE

- 6 First EU Member States unveil plans to share patient data
- 8 European Commission names members of High Level Group
- 10 Nagoya Protocol signatories assess impact of synthetic biology and ban gene drives; Bioeconomy: five EU countries join Brazil's Biofuture programme; Heard in the Member States
- 12 EPO: European Life sciences industry criticises Early Certainty Initiative
- 14 Interview "Discontent to patenting": Gavin Recchia, Davies Collison Cave

ECONOMY

- 24 European stock market analysis; IP Flash
- 25 Update on clinical trials
- 28 EMA News
- 31 Analyst commentary
- 32 Euro Biotech Stocks
- 34 Focus on BioEurope Spring
- 36 AMR: Experts discuss strategies at 10th Berlin Conference
- 38 Interview "Bioeconomy – a clear path ahead": Matti Heikkilä, CTO, MetGen Oy

REGIONAL NEWS

- 60 Northern Europe: Sweden, Denmark, Finland and Norway
- 62 Western Europe: France, Belgium, The Netherlands and the UK
- 64 Central Europe: Germany, Switzerland and Austria
- 66 Southern Europe: Italy, Spain, Portugal and Greece
- 68 Eastern Europe: Hungary, Poland, Czech Republic and Lithuania

SCIENCE & TECHNOLOGY

- 76 Preventing congestion in acute heart failure patients
- 78 Novel antibiotics; Healthy ageing study enrolls 45,000 Italians
- 80 Chemotherapy stratification; Exoskeleton mimics muscles

SERVICE

- 82 Biopeople
- 83 News from partner associations: SBA, BIO Deutschland, DIA, EuropaBio and Medtech Europe
- 88 Company index
- 89 Events
- 90 Encore

BIOMANUFACTURING

The smell of success

Biotech firms are making inroads into the market for flavours and fragrances. Foods, detergents, perfumes – even toilet papers have trademark scents nowadays. Producing many flavours and fragrances conventionally is expensive and unsustainable. Now bioengineered yeasts and bacteria are churning out popular compounds at an industrial scale – and the first have hit the market.



54

DNA PHENOTYPING



70

Mugshots from DNA

The DNA from sperm, skin cells or hair left behind at a crime scene contains hidden clues to a perpetrator’s external appearance – like information on hair or eye colour. But although police investigators are eager to use this emerging technology, forensic DNA phenotyping still raises many ethical, legal and scientific questions.

SPECIAL

Packaging + Serialisation

- 45 Serialisation – time is running out
- 48 Interview: Konrad Betzler, Chief Pharma Officer, Haselmeier, Germany
- 52 Falsified Medicines Directive: Ready for 2019? Markku Pietarinen, UPM Raflatac, Finland
- 52 The evolving needs of biologics packaging, Megan Williamson, Datwyler Sealing Solutions, Switzerland

EDITORIAL

Health h(appe)ning

You see them every weekend on the streets or in the park – an army of joggers staring at smart watches or smart-phones that record pulse frequency, oxygen saturation and pace. Now data monitoring personal progress in fitness and endurance doesn’t have to necessarily stay private.

Large insurance companies have begun launching programmes that encourage customers to share personal health and fitness data in return for discounts on premiums and more. In principle, it’s hard to argue with their stated goal – to motivate people to adopt healthier lifestyles.

European insurance major Generali says the European roll-out of its Vitality programme (p. 16) will be good for sales, customers and healthcare systems by rewarding people who take steps to improve their health.

Privacy and consumer protection groups are wary though. They warn that giving this kind of information to companies could open the floodgates to more individualised premiums that discriminate against the ill and the old.

Another good question is whether pressure to track health in your leisure time will really make you feel better in the long run. Many fitness-app users seem more tortured by their software than improved by it. At what point do you pay more attention to the electronics than personal sensation? Are the good old days of flying over the asphalt flooded by endorphins over?



Thomas Gabrielczyk
Editor-in-Chief



The Vitruvian Man depicted on the Italian Euro coin. Was Generali inspired by it?

Next Big Thing in insurance: Health apps

COVERAGE To date, insurance business models have always been based on damage control, but that paradigm is changing. Some insurers are now trying to hedge bets by motivating customers to get healthier and track that progress with the help of technology. Critics are concerned about data protection issues, and see this as a first step towards individualised premiums that will erode the principle of solidarity. What are the potential upsides and downsides for customers and societies?

Wireless health-tracking has turned into a megatrend. By 2020, analysts from the consultancy research2guidance expect the market for mobile health (mHealth) apps to grow more than 15% – up to US\$31bn. According to new statistics from IT industry association BITKOM, one in three people in Germany now records health data digitally. Europe-based Capgemini says that on a global scale, the adoption of wearable fitness devices will likely grow from 13% to 20% of customers by 2020, and thinks every fifth consumer worldwide will use some kind of smart watch by then. Long-term, the consultancy giant sees the total addressable market at 44%-47%. Adidas sports app Runtastic alone is already used by some 80 million people in 20 countries across the globe.

“The new apps and wearables could be extremely useful,” stresses BITKOM chief Bernhard Rohleder. “They can help healthy people remain fit, and help patients recover faster.” According to a new analysis on the “Chances and Risks of Mobile Health Apps” (CHARISMHA), such programmes can help improve “health-conscious behaviour, adherence and compliance, thus resulting in a reduction of costs for healthcare in the long-term.”

According to the Capgemini analysts, mHealth app use is also the Next Big

Thing in the insurance industry – and not only because they promise to enable insurance companies to understand a customer’s risk profile “at an earlier stage”, which is determined by genes, environment and lifestyle. The study also makes the point that “if customers are healthy, the claims from them will be greatly reduced”, which could “reduce the health-

care spend.” And mHealth data can “also reduce administrative costs of health insurers”, allowing them to “cross-sell specific insurance policies to customers based on their health data.”

The ‘shared benefit’ model

In 2014, Italian insurance major Generali took some of the industry’s first steps into the dawning mHealth age. The third largest private insurer in Europe (behind Germany’s Allianz AG and French AXA Group) had a premium income exceeding €74bn in 2015. It signed a contract with South African Discovery Ltd., whose co-founder and CEO Adrian Gore invented a shared-value insurance model dubbed ‘Vitality’ back in 1997. According to him, the concept is simple: “To help people improve health and wellness, and thereby prevent illness.” In brief, the idea is to provide incentives to both healthy and ill customers to modify unhealthy behaviour, which reduces the risk of illness overall. According to Gore, that’s good not just for the people in the scheme, but for his company and society as a whole.



SIMON GUEST
CEO, Generali Vitality

? Why is Generali Vitality a good choice for customers?

! “Our programme is in everyone’s interest. It motivates people to live healthier lives – and they’ll do that if they don’t smoke, eat less fat and work out. This makes the programme unique in Germany and Europe.”

>> Read the full story in the printed issue.

FREE EXCERPT



Taste sensations and the smell of success

FLAVOUR & FRAGRANCES Until recently, aroma compounds were either sourced directly from plants or made from petrochemicals with the help of chemical synthesis processes. Now a handful of biotechnological production approaches are making headway and inroads into the key sector. There haven't been real breakthroughs in big F&F markets yet, but biotech companies look poised to change the industry forever.

>> Read the full story in the printed issue.

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The hidden mugshot in a culprit's DNA

FORENSIC EVIDENCE Police investigators today begin searches for perpetrators with conventional DNA profiling – comparing a genetic signature from sperm or hair left at a crime scene with a database of identified offenders. But that doesn't finger culprits who have never been registered. A growing technology called 'DNA phenotyping' is now aimed at interpreting genomic clues about a suspect's possible external appearance. The science behind it is new, and investigators have to navigate the statistical uncertainties – as well as ethical and legal questions – the technology is raising all over Europe.

» Read the full story in the printed issue.

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3P Biopharmaceuticals S.L. (ES)	30	Evotec AG (GER)	65	Oxford Biotrans (UK)	58
A1M Pharma AB (SE)	61	Expedia Inc. (USA)	18	Oxitec Ltd. (UK)	62
AbbVie Inc. (USA)	27	FGK Clinical Research GmbH (GER)	37	PCI Pharma Services (UK)	73
Actelion Ltd (CH)	27, 64	Firmenich SA (CH)	58	Pelago Bioscience (SE)	60
Adidas AG (GER)	18	Forbion Capital Partners (NL)	37	Penta Vermögensverwaltung AG (GER)	68
AdrenoMed AG (GER)	76	Fund+ (BE)	62	Pfizer (USA)	28, 62, 65, CP4
Affimed GmbH (GER)	65	Galapagos NV (BE)	7, 27, 82	Pharmalink AB (SE)	82
AiCuris GmbH & Co KG (GER)	25	Garmin Ltd. (CH)	18	Polpharma Biologics (PL)	CP2, 68, 69
Allergan Ltd (IRL)	27	Gedeon Richter Ltd. (HUN)	27, 28, 68	Primecell Advanced Therapy (CZ)	68
Allianz SE (GER)	17	Generali S.p.A. (IT)	17, 20	Primecell Bioscience (CZ)	68
Allylix Inc. (USA)	58	Generali Vitality GmbH (GER)	18	Primecell Therapeutics (CZ)	68
Almirall S.A. (ES)	67	GenSearch Consulting (GER)	11	Promethera Biosciences (BE)	63
Amgen Europe (CH)	28	Geveran Trading Co. Ltd (CY)	61	Quretech Bio (SE)	37
Amryis (USA)	55	Ginkgo Bioworks (USA)	55, 56	Rentschler Biotechnologie GmbH (GER)	65
Angle plc (UK)	63	Grifols S.A. (ES)	66	Robertet Group (F)	56
AntibioTx (DK)	37	Haselmeier GmbH (GER)	48, 52	Roche AG (CH)	12, 27, 31
AOK Nordost (GER)	21	Helene Sundt AS (NO)	61	Roquette Group (F)	64
Astra Zeneca (UK/SE)	25	Hologic Inc. (USA)	66	Royal DSM (NL)	56
Auspherix (UK)	37	Hutchison China MediTech Ltd. (UK)	25	Sandoz GmbH (GER)	68
Avantium Holding B.V. (NL)	90	Immunetep SA (PT)	37	Sanofi SA (F)	63
AXA Group (F)	17	Intrexion (UK)	62	Santhera Pharmaceuticals (CH)	65
Barmer GEK (GER)	21	Inventiva S.A.S. (F)	27	Serodus ASA (NO)	61
BASELAREA.SWISS	22, 23, 65	Ionis Pharmaceuticals (USA)	31	Servier (F)	62
Bavarian Nordic A/S (DK)	25, 82	Isobionics B.V. (NL)	55, 58	Shire Pharmaceuticals Group Ltd (IRL)	82
Bayer AG (GER)	12, 25	Johnson & Johnson (USA)	26, 64, 65	Siemens AG (GER)	65
BB Medtech AG (CH)	31	Juvabio (CH)	37	Solon Eiendom ASA (NO)	90
BenevolentBio (UK)	82	Laboratoris Sanifit S.L. (ES)	66	SOLVAY SA (BE)	55
Berlin Partner GmbH (GER)	CP3	Leaf Resources (AUS)	61	SOM Biotech SL (ES)	66
BIOCOM AG (GER)	24, 36, 42, Supplement	Leffingwell & Associates (USA)	56	SphingoTec GmbH (GER)	76
BioJapan 2017	77	Leukocare AG (GER)	65	STADA Arzneimittel AG (GER)	68
BioM Biotech Cluster Development (GER)	40	Life Science Austria LISA (AT)	13	StemTek Therapeutics (ES)	62
BioMedPartners AG (CH)	65	LifeLiver Co. Ltd (KR)	63	Suppremo GmbH (GER)	65
Bionor Pharma ASA (NO)	90	M+W Central Europe GmbH (GER)	57	Swarovski (AT)	65
BioVersys AG (CH)	37	Mane SA (F)	55	Swiss Biotech Association	79
Boehmert & Boehmert (GER)	24, 29, 36	Merus B.V. (NL)	63	Sygnature Discovery Ltd (UK)	60
Boehringer Ingelheim (GER)	26, 45	MetGen Oy (FI)	38	Symcel (SE)	60
Borregaard ASA (NO)	55	MLM Medical Labs GmbH (GER)	9	Symrise AG (GER)	55
Brain AG (GER)	64	MorphoSys AG (GER)	64	Targovax AS (NO)	60
Braun GmbH (GER)	65	Morgan Sindall	80	tebu-bio SA (F)	62
Bristol Laboratories Ltd. (UK)	25	Must Invest AG (NO)	61	Techniker Krankenkasse (GER)	21
Capgemini Deutschland GmbH	17	Nanobiotix S.A. (F)	82	TeGenero Immuno Therapeutics AG (GER)	26
Collectis SA (F)	31, 62	Newco (CH)	64	TerraVia Holdings (USA)	55
Celltrion Healthcare Hungary Kft.	28	Newron Pharmaceuticals S.p.A. (IT)	27	Theramab LLC (RU/GER)	26
CGS Holding AS (CZ)	61	Nordic Nanovector AS (NO)	90	ThromboGenics NV (BE)	26
Chemspec Europe 2017 (UK)	15	NovaBiotics Ltd (UK)	37	Trianni, Inc. (USA)	19
Claeris (AUS)	61	Novartis AG (CH)	68	UCB SA (BE)	27
Colzyx (SE)	60	Novartis Europharm Ltd. (UK)	28	uniQure BV	62
CureVac AG (GER)	8, 26, 64	Novartis Venture Fund (CH)	65	UPM Raflatac (FIN)	47, 50
Dätwyler Schweiz AG (CH)	49, 52	Novo Nordisk A/S (DK)	60, 65	V-Bio Ventures (BE)	62
Davies Collision Cave (AUS)	14	Novozymes A/S (DK)	61	Vaccibody AS (NO)	61
Debiopharm S.A. (CH)	25	Ocello B.V. (NL)	63	Valuepack B.V. (NL)	51
Dentons	45	Octapharma AG (GER)	28	Vectron Biosolutions AS (NO)	59
Dermira (USA)	27	Octimet Oncology NV (BE)	62	Vectura Group plc (UK)	31
Deutsche Messe AG (GER)	21	Omnis Capital (F)	62	Vernalis plc (UK)	31
Discovery's Vitality Group (USA)	21	Omnix Medical (IL)	37	Vertex Pharmaceuticals Inc. (USA)	25
Droia Oncology Ventures (LU/B)	62	Oncoinvent A/S (NO)	61	Vetter Pharma-Fertigung GmbH & Co.KG (GER)	25
EBD Group (CH)	35	Oncopeptides AB (SE)	61	Weight Watchers (USA)	18
Edmond de Rothschild Investment Partner (F)	37	Onxeo S.A. (DK)	26	Wilhelm Bähren GmbH & Co. KG (GER)	44
Eli Lilly Nederland BV	28	OPIS s.r.l. (IT)	27	Wilhelm Haselmeier GmbH & Co. KG (GER)	53
Enterome SA (F)	25	Orion Corporation (FIN)	46	XPOMET Convention 2017 (GER)	39
Eppendorf AG/Bioprocess Center Europe (GER)	75	Orion Pharma (FIN)	61	Zealand Pharmaceuticals A/S (DK)	63
Ergo Group (GER)	20	Oryzon Genomics S.A. (ES)	82		
EuropaBio/European Biotech Week (BE)	41	OSE Immunotherapeutics (F)	25, 26		
European Biotechnology Network (BE)	30				
Evolve Holding SA (CH)	55, 56				

MAY
17

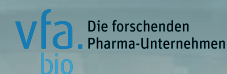
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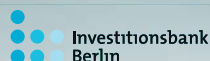
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