



WE ARE

MERCK

MERCK

DISCLAIMER

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The information in this document may contain "forward-looking statements." Forward-looking statements may be identified by words such as "expects", "anticipates", "intends", "plans", "believes", "seeks", "estimates", "will" or words of similar meaning and include, but are not limited to, statements about the expected future business of Merck KGaA resulting from the proposed transaction. These statements are based on the current expectations of management of Merck KGaA and E. Merck OHG, and are inherently subject to uncertainties and changes in circumstances. Among the factors that could cause actual results to differ materially from those described in the forward-looking statements are factors relating to satisfaction of the conditions to the proposed transaction, and changes in global, political, economic, business, competitive, market and regulatory forces. Merck KGaA and E. Merck OHG do not undertake any obligation to update the forward-looking statements to reflect actual results, or any change in events, conditions, assumptions or other factors.

51,749

Employees worldwide



KEY figures

66

Countries



Founded

1668



14.8

Sales (€ billion)



2.2

R&D (€ billion)



MERCK

GROUNDBREAKER

in science and technology



Healthcare

Prescription drugs and solutions to treat cancer, multiple sclerosis, infertility, cardiovascular and metabolic diseases



Life Science

Innovative tools and laboratory supplies for the life science industry that make research and biotech production better, faster and safer



Performance Materials

High-tech chemicals like liquid crystals and OLED materials, effect pigments and specialty chemicals

Truly Global

We are known as
"MERCK"

internationally except for the
United States and Canada
where we operate as:



Merck KGaA
Darmstadt, Germany

**EMD
serono**

Biopharmaceutical
business

**Millipore
sigma**

Life sciences
business

**EMD
performance
materials**

High-tech materials
business



Healthcare

MERCK

Therapeutic areas



IMMUNO-ONCOLOGY & ONCOLOGY

Overcome resistance in “hot” tumors, turn “cold” tumors “hot”, NCEs with well-defined molecular targets



NEUROLOGY & IMMUNOLOGY

Best-in-disease in autoimmune indications including SLE, LN, MS, lung fibrotic disorders and OA



FERTILITY

Innovation in IVF drug assets, lab diagnostics solutions, as well as Artificial Intelligence technologies



GENERAL MEDICINE & ENDOCRINOLOGY

Innovative products across all our core specialty therapeutic areas in mature and growing markets

42%

share of Group net sales

17,550

Employees

€6.2bn

Net sales

€1.7bn

R&D spending

*Full year 2018

Robust pipeline

through
solid investments in

innovation

38 projects in clinical development





Oncology & Immuno-Oncology

Heritage

Anti-EGFR, mCRC & SCCHN, pioneers in wild-type KRAS biomarkers.

+810,000 patients treated with Erbitux.

\$11 billion generated in sales since 2004 launch (in our territories).

Launch

2nd anti-PDL1 antibody in the market with Bavencio.

FAST in execution from first in human to approvals in 2017. Currently, 8 phase 3 trials across 6 tumors on-going.

Building Future

First bifunctional TGF- β TRAP /anti-PD-L1 therapy ready for pivotal studies (including registrational intent) in multiple tumor types.

Granted "SAKIGAKE" fast-track designation for our investigational molecule tepotinib for patients with advanced non-small cell lung cancer (NSCLC) harboring MET exon 14 skipping alterations.



Neurology & Immunology

Heritage

20 yrs of experience
in Multiple Sclerosis care.

1,594,414
patient-years exposure
for REBIF.

LAUNCH

New approved
in EU, Canada, Australia, LatAM
innovative therapy for people
with highly active relapsing MS
with MAVENCLAD®

Rebi Smart®
injection device,
patients can inject and monitor
their own medicine intake and
can make better use of
their time with their neurologist.

Building Future

First Bruton's tyrosine kinase
(BTK) inhibitor to demonstrate
clinical proof of concept in Multiple
Sclerosis.



Fertility

Heritage

Global Market leader in fertility treatments.

An estimated **2.5 Million babies worldwide**

have been born with the help of our fertility products.

LAUNCH

Fertility Technologies business broadened its footprint, **launching the fertility lab device** Gidget® in China in May and obtaining clearance from the U.S. Food and Drug Administration for Geri® Connect and Assess.

Pergoveris® Pen launch in **12 countries.**

Building Future

Curious in Mind with innovative developments in the field of IVF, drug assets, IVF lab diagnostics solutions, as well as Artificial Intelligence technologies.



Fertility

OUR KEY FOCUS

- 1. Preclinical and clinical assets and technologies** that are able to support and strengthen our aspiration for innovation, and have clear differentiation potential.
- 2. Innovative developments** in the field of IVF, drug assets, IVF lab diagnostics solutions, as well as Artificial Intelligence technologies.



General Medicine & Endocrinology

Heritage

Every day,

60 Million patients across the globe use the trusted medicines from our General Medicine & Endocrinology franchise

First Thyroid preparations in the world developed in 1894, today market leader ex-US

LAUNCH

60 yrs of commitment to the fight against type 2 diabetes with Glucophage

Saizen is **NO° 1** to deliver successfully in e-health due its rewarded devices easy pod™ in the Growth Hormone market

Building future

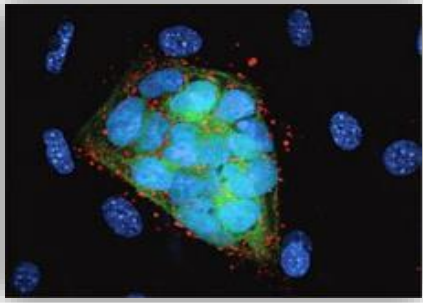
As **22nd** beta-blocker launched, Concor is the global market leader (SU), despite the fact that it is not sold in the US market



General Medicine & Endocrinology

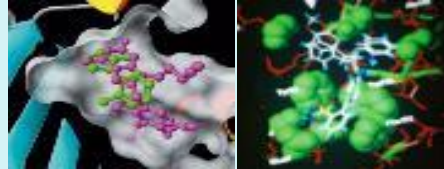
OUR KEY FOCUS

1. Grow our portfolio with **innovative products** across all our core specialty therapeutic areas in **mature and growing markets**.
2. Fueling additional growth via branded portfolio expansion strategies in selected areas of strengths, based on **commercial opportunities as well as unmet medical and patient needs**.



TECHNOLOGIES & BIOMARKERS

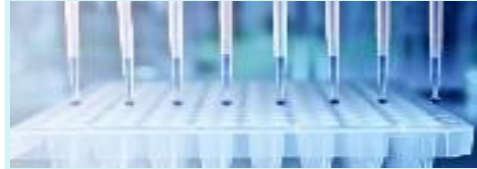
Discovery Technologies Molecular Platforms



- New molecular approaches for targeted therapy (other than classical SME based inhibitors, antagonists/agonists, mAbs, ADCs)*
- Molecular platforms complementing our SME, mAbs/binders and ADC programs

* ... but we are interested to learn about your "classical" assets across our therapeutic areas

Discovery Technologies Screening & Technology Platforms

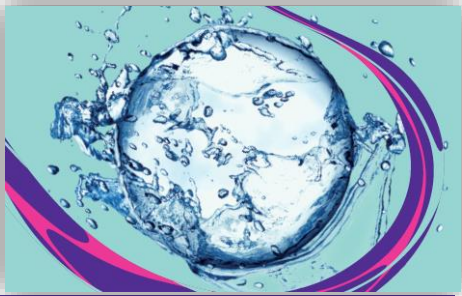


- Novel functional screening approaches for SMEs (other than HTS)
- On the clonal level, multiplexed functional screening of molecular binders such as for example mAbs or scaffolds
- Label-free target occupancy/deconvolution, and off-target identification technologies
- Computational methods for SME and protein/mAb in silico design, optimization, screening, and target ID/off target occupancy

Clinical Biomarkers, Market Enabling Technologies & Companion Diagnostics



- Identification and validation of predictive biomarkers with a focus on patient stratification across our pipeline
- Development/identification of cutting-edge biomarker technologies that enable biomarker validation and patient screening and potentially accelerate clinical development of our assets
- Development of companion diagnostic technologies that enable patient and market access to testing in our therapeutic development programs



CMC / NCS

CMC

- ❑ Computational product & process design
- ❑ Additive manufacturing of pharmaceutical dosage forms
- ❑ Adherence to medication
 - Smart packaging
- ❑ Anti-counterfeit technologies for solid oral dosage forms
- ❑ Tumor targeting technology platforms
- ❑ Bioavailability enhancement
- ❑ Continuous manufacturing
- ❑ Innovative primary packaging materials
- ❑ Technologies for LCM of peptides & proteins
 - Bolus injectors
 - Oral delivery
 - Microneedle patches
 - Highly concentrated formulations

NCS

- ❑ In vitro models for tox prediction
 - Intestinal
 - Eye/retina
 - Pancreas
 - CNS
- ❑ Novel biomarkers for pancreas toxicity
- ❑ Biosensors (intracellular/in devices)
- ❑ Screening methods to understand/show emesis

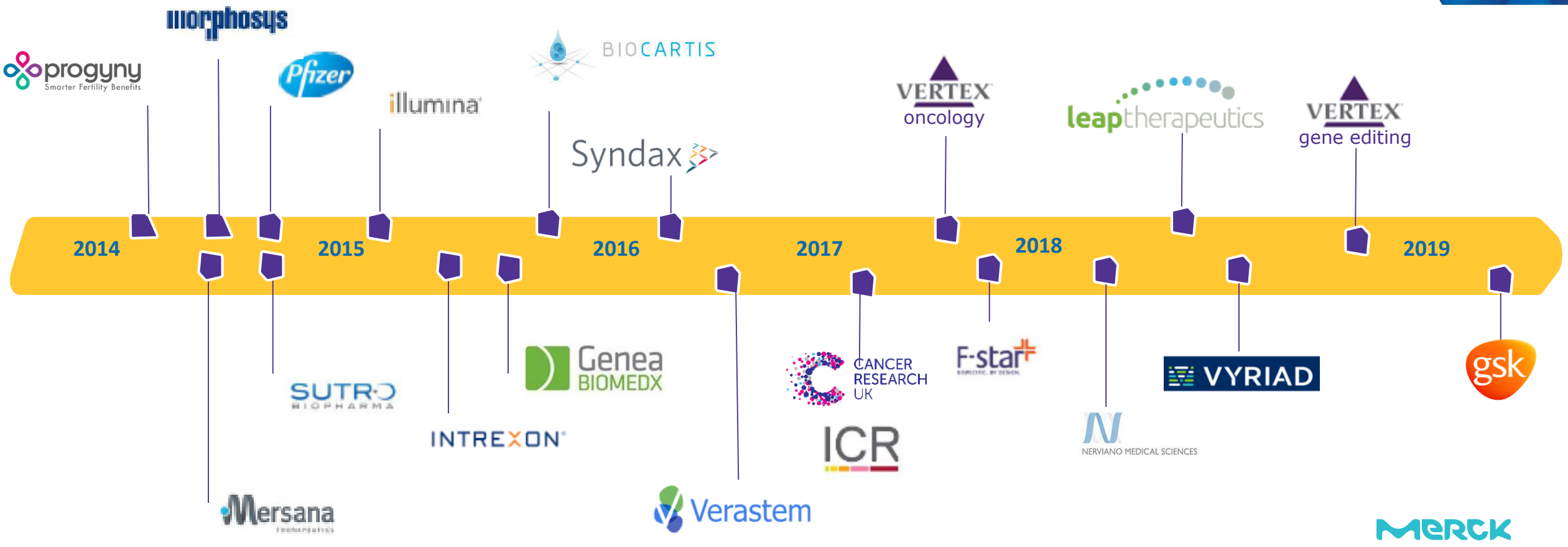
collaboration in Healthcare

We believe in the
power of partnerships

We view strategic collaborations as
integral to transforming the lives of patients
with serious medical needs around the world

Together with our partners,
we bring healthcare innovation to life,
elevate potential maximizing value and
unlock pathways to use innovative deal structures and creative
alliances

innovative partnerships Making successful stories



CANCER RESEARCH UK

10 years as collaborators

The Wnt pathway collaboration:

2009 – 4 year collaboration and option with Univ. of Cardiff and ICR on Wnt pathway

2013 – Merck took an option and extended collaboration with ICR

The Hippo pathway collaboration:

2015 – 1 year collaboration on target validation

2017 – Collaboration agreement for a drug discovery program and binding heads of terms for larger collaboration and licence agreement

2018 – Full agreement: focusing on 3 targets



CANCER
RESEARCH
UK



Investment, collaboration & license

- M Ventures invested in series A
- **2011**: Collaboration on discovery and development of novel targeted biologics
- **2017**: Strategic collaboration on bispecific antibodies
- **2019**: Merck in-licenses one discovery stage program from the collaboration set up in 2017
Merck gains option rights for a second program





New strategic alliance

- As of **March 2019** bintrafusp alfa is being jointly developed and commercialised in a global alliance
- First-in-class bi-functional fusion protein – targeting TGF Beta and PD-L1; shown clinical anti-tumor activity across multiple hard to treat cancers
- Potential total deal value \$3.7B – Upfront \$300M, development and commercial milestones of \$3.4B
- Profits and costs to be shared equally
- Deal expands and speeds up the development program



M Ventures

Structured as four sector-focused funds with combined €300m under management



Healthcare

€150 M

Investments in the next generation of drugs

- Biologics and small-molecules
- Investment focus: Oncology, Immunology, Immuno-Oncology and Fertility
- Finding novel solutions for patients



Life Science

€50 M

Investments in the life science business

- Next generation tools and services for biotech research & production
- Tools and laboratory supply for the academic research and industrial testing



Performance Materials

€50 M

Investments in materials and applications

- Innovative display materials, pigments and functional materials
- High-tech materials for electronics
- Connectivity and communication materials



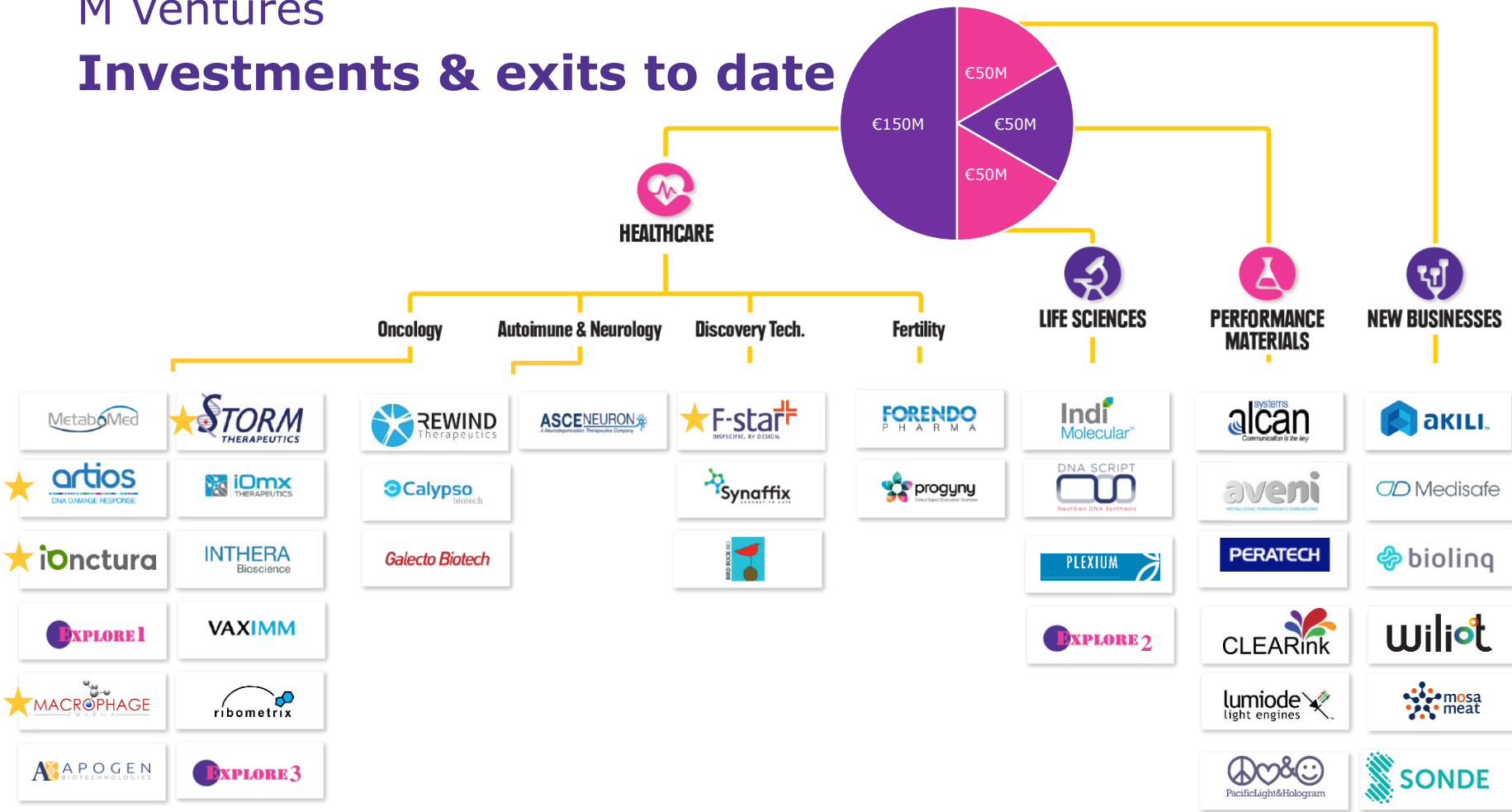
New Businesses

€50 M

Investments in new business fields

- To establish a fourth business pillar for the Merck Group
- Very broad mandate
- Anything in the fields of digital, agriculture, food and beyond

M Ventures Investments & exits to date



EXITS & I.P.O.



Close Downs



M Ventures – the strategic investment group of Merck, KGaA, Darmstadt, Germany



Room for innovation The Merck Innovation Center

Foster

internal ideation, project inception and progress



connect

external ideas
to Merck

strengthen

innovator skills & innovation culture

Hungry for innovation?

Check our UK satellite activities at:
innovationcenter.merckgroup.com





October 18, 2019 10:27 AM EDT Updated 01:52 PM Amber Tong Venture, China



Merck KGaA wants to get in early on Chinese innovation — so it's setting up a seed fund there

Merck KGaA is carving out a small — but emblematic — portion of its venture arm to nurture new Chinese startups while it cuts the ribbon on an innovation hub in Shanghai.

The €13 million (RMB100 million) seed fund falls within the scope of M Ventures' €300 million mandate, according to the German drugmaker, and would be jointly managed by that team and the innovation hub. Startups that fall into the healthcare, life science, performance materials and “new businesses” buckets can expect to receive investments between €500,000 and €1 million designed to bring them over to a value inflection point within two years.



Stefan Oschmann Merck
KGaA

“This is the first activity of our corporate strategic venture arm in China,” CEO Stefan Oschmann said in a statement. “Our seed fund initiative aims to deliver strategic returns so as to underscore our position as an innovator in China and to strengthen our ties to the dynamic Chinese innovation ecosystem.”

Which part of Merck shall I be talking to?

Healthcare

Prescription drugs and solutions to treat: cancer, multiple sclerosis, infertility, cardiovascular and metabolic diseases

Life Science

Innovative tools and laboratory supplies for the life science industry that make research and biotech production better, faster and safer

Performance Materials

High-tech chemicals like liquid crystals and OLED materials, effect pigments and specialty chemicals

Blue sky innovation

Innovation Centre

Need seed funding

M Ventures
Healthcare

M Ventures
Life Science

M Ventures
Performance Materials

Discovery - market

Business Development
Healthcare

Business Development
Life Sciences

Business Development
Performance Materials

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