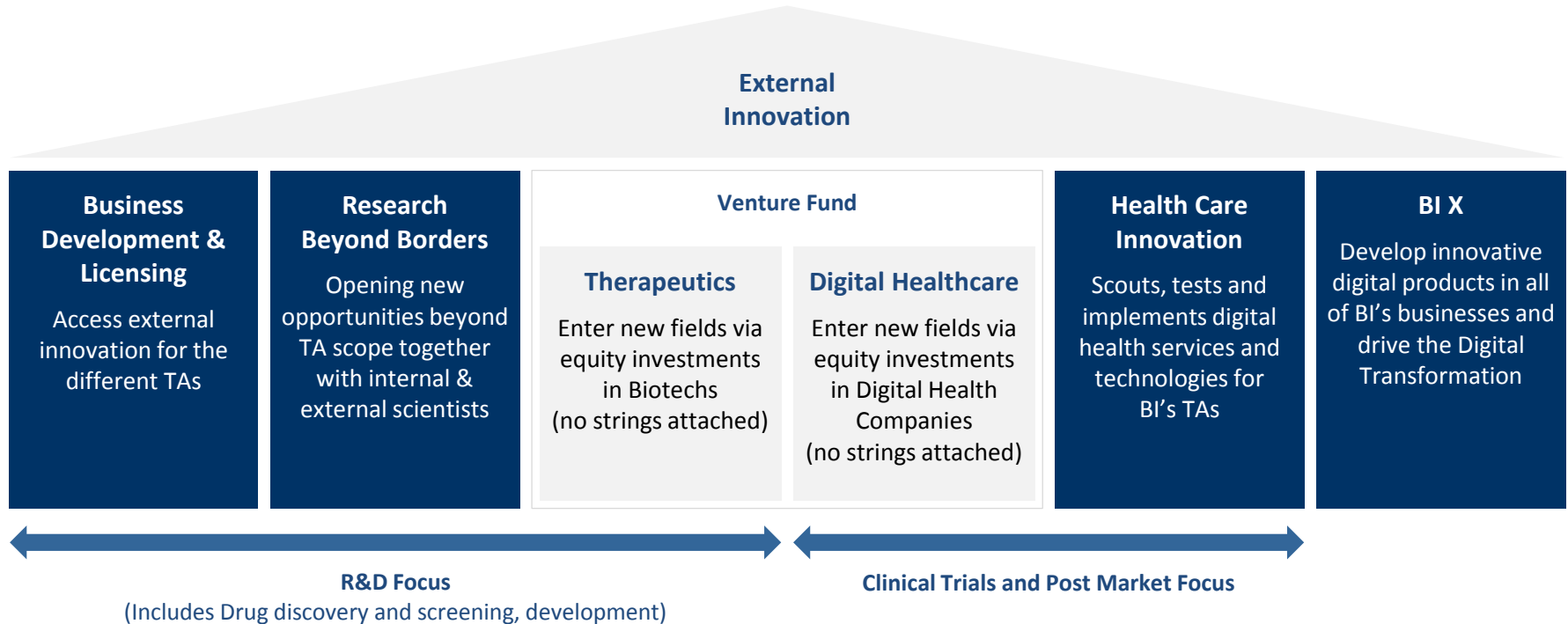


# Boehringer Ingelheim Venture Fund

Access to External Innovation  
via Equity Investments



# Boehringer Ingelheim's integrated approach to external innovation



# Boehringer Ingelheim Venture Fund in a nutshell

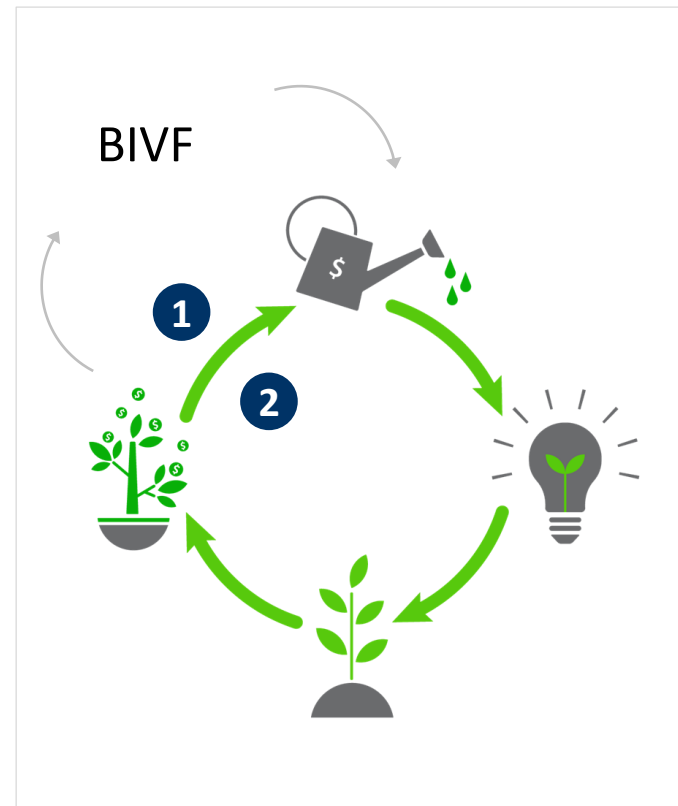
**Evergreen** Concept since 2010

Investment Volume: **€250m**

Focus to **Therapeutics & Digital Healthcare** Solutions

3 kinds of “**Dividends**”:

1. Alliance with/**Acquisition by BI**
2. **Trade sale** to/Alliance by competing pharma
3. **Awareness of BI** corporation for emerging science & business



# Boehringer Ingelheim Venture Fund Portfolio

## Immuno Oncology



## Targeted Oncology



## Regenerative Medicine



## Infectious / Microbiom



## Immune Tolerization



## Ophthalmology



## Digital Healthcare



## Orphan CNS



# Boehringer Ingelheim Venture Fund – The Team



# Boehringer Ingelheim Venture Fund – At a glance



## Following the medical need for innovation

- Strategic fund investing in early-stage, life-science companies with innovative concepts and technologies with the potential to provide ground-breaking therapeutic platforms
- Prepares the way for Boehringer Ingelheim to expand into new therapeutic approaches and businesses
- Current investment focus:
  - Cancer immunology
  - Regenerative medicine
  - Digital Healthcare
- Currently investment portfolio of 21 companies
- Global operational footprint established in Germany and the USA

# Focus areas for investment – Digital Healthcare

Focus Area 1 Patient Care Mgmt	Diagnosis of Disease	Biomarkers for Prognosis	Disease Monitoring	Prevention of Onset/ Progression of Disease	Population Health Management	Chronic Care Management
Focus Area 2	Medication Adherence	<b>Key Criteria for Investment:</b> <ul style="list-style-type: none"><li>✓ Seeks clinical trial-like validation</li><li>✓ FDA approval necessary</li><li>✓ Or at least addressing an unmet need of a payer (e.g. Real World Data)</li><li>✓ Must not be solely a consumer health product</li></ul>				
Focus Area 3	Digital Companion Therapy					
Focus Area 4	Digital Therapy					
Focus Area 5	Access to Care	<b>We are agnostic to specific types of technology. Companies are chosen along strategic need</b>				

# Focus areas for investment – Digital Healthcare



## Patient Care Management

Diagnosis of Disease	Biomarkers for Prognosis	Disease Monitoring	Prev. of Onset / Progression of Disease	Population Health Management	Chronic Care Management
<ul style="list-style-type: none"> <li>Digital biomarker for clinical decision support</li> <li>AI and Machine Learning</li> <li>Low-cost and pervasive digital technologies</li> <li>Real-time Diagnosis confirmation</li> </ul>	<ul style="list-style-type: none"> <li>Digital biomarkers for therapy and disease progression</li> <li>AI-enabled analytics/prediction models</li> <li>Biofeedback</li> </ul>	<ul style="list-style-type: none"> <li>Low-cost and omnipresent digital tech</li> <li>Next generation PRO tech</li> <li>Patient management platforms for doctor-patient communication</li> </ul>	<ul style="list-style-type: none"> <li>Identification of patients at risk for disease</li> <li>Next generation disease management tools</li> <li>Symptom and exacerbation alert</li> <li>AI-enabled feedback/Biofeedback</li> </ul>	<ul style="list-style-type: none"> <li>Data management systems</li> <li>Optimizing Treatment: Patient stratification and ID</li> <li>Clinical trial patient ID</li> <li>Monitoring of safety, efficacy and health economic</li> </ul>	<ul style="list-style-type: none"> <li>Oncology care services</li> <li>Diabetes wrap around services</li> <li>Identification of populations with risks</li> <li>Coordination of care</li> <li>Self-management support</li> </ul>



# Focus areas for investment – Digital Healthcare



## Medication Adherence

- Monitors and detects drug response, safety (avoiding DDIs), efficacy can include social determinations of medication adherence, reminders

- Image Recognition
- Digital Pill
- Artificial Intelligence
- Gamification
- Behavioral Economics
- Smart Packaging
- Smart Sensors



## Digital Companion Therapy

- Companion diagnostics/therapy that are paired with drug to facilitate drug delivery, drug response, enhance safety or change behavior and enhance drug outcome

- Sensors
- Artificial Intelligence
- Data Analytics
- Drug Delivery Tech.
- Patient Platforms
- Gamification
- 3D Printing



## Digital Therapy

- Clinically validated disease intervention (standalone from drug) and direct treatment applications

- Artificial intelligence
- Sensors
- Drug Delivery Tech.
- Gamification
- Robotics
- Patient Platforms
- 3D Printing








## Access to Care

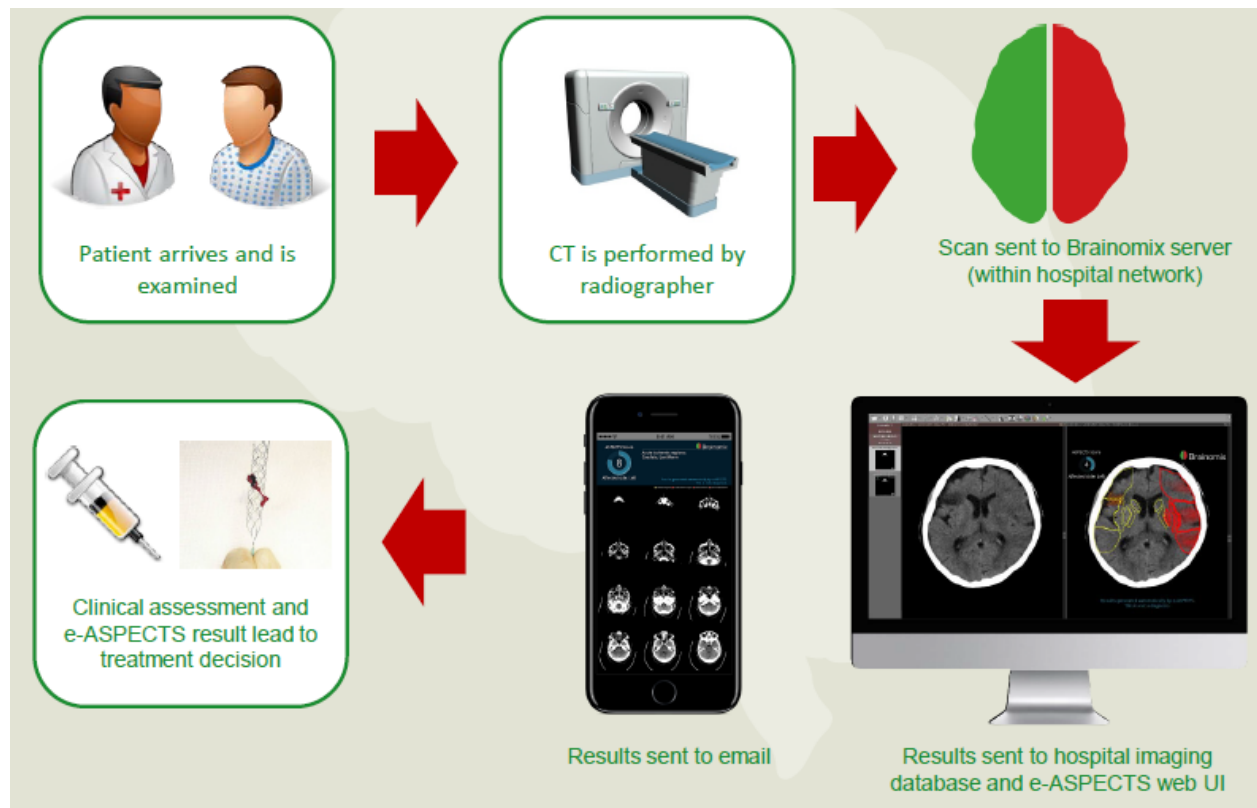
- Innovation in Affordability and Optimized Care

- Value-based payment & reimbursement solutions
- Solutions to ensure clinically appropriate care
- Improvement of patient experience and patient centricity
- Increase quality of care

# Fund features for digital healthcare investments

				
<b>Volume of Fund</b>	<b>Volume of Individual Investment</b>	<b>Target Portfolio Size</b>	<b>Geographic Coverage</b>	<b>Personnel</b>
€50M, aim to achieve evergreen status, minority equity investments, no strings attached	Up to €7.5M over the life cycle of a target company	8 (+/- 2) investments, built up over 3-5 years	EU (incl. Israel) & US	Dedicated investment managers with experience in evaluation of scientific and digital innovations

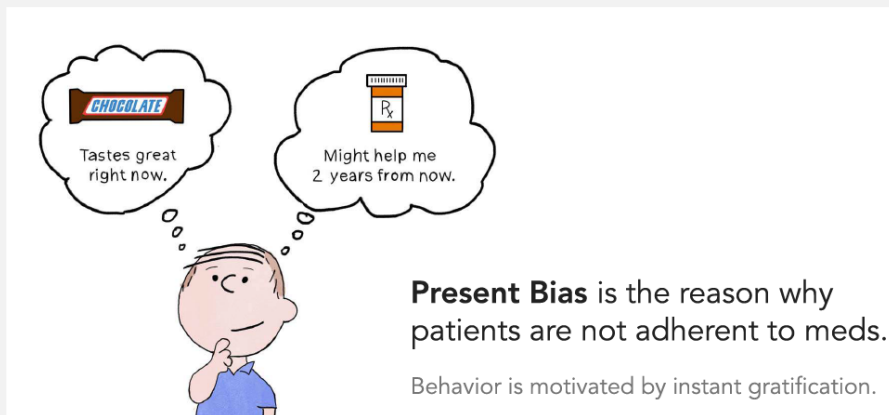
# Brainomix automates analysis of CT scans



- UK based Brainomix developed a software tool (e-ASPECTS) for the automated analysis of CT scans in order to detect early ischemic changes in the brain of patients with clinical signs of stroke
- **Stage:** Series B January 2018



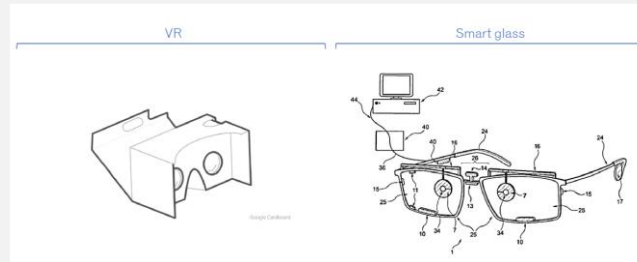
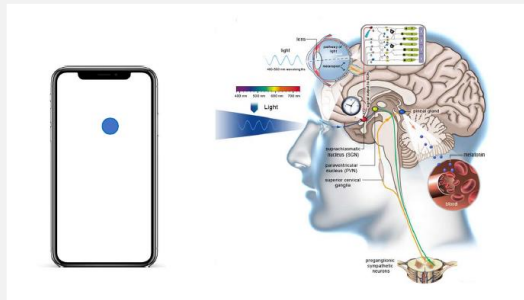
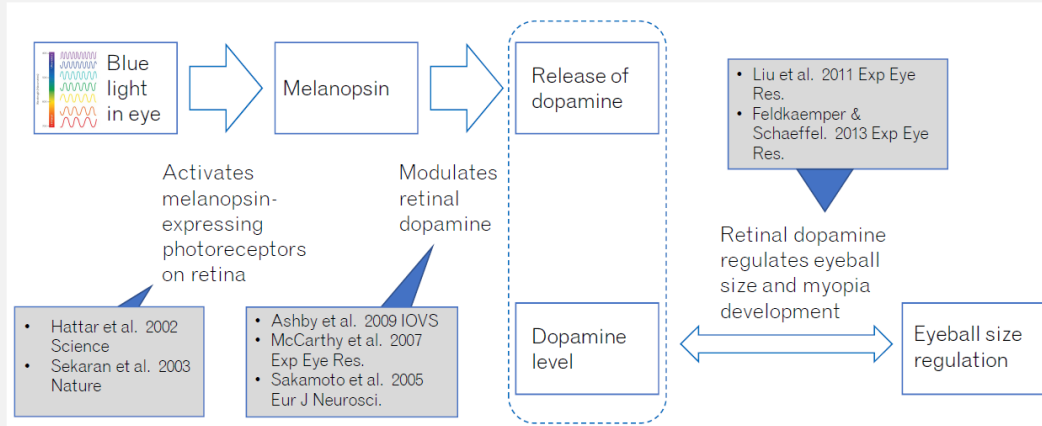
# Wellth applies behavioral economics to increase outcome



- US based Wellth applies behavioral economics through scalable technology to achieve better adherence, engagement, and health.
- **Stage:** Seed August 2018



# Dopavision is set to treat myopia, digitally



- Germany based Dopavision is developing a digital therapeutic for myopia which can be seamlessly and invisibly integrated with the use of a smartphone
- **Stage:** Seed May 2019

# BI Venture Fund Digital Healthcare Investment Team



Dr. Debbie Lin is **Executive Director** of the Venture Fund Digital Healthcare. She leads **US** efforts and is based in Boston, USA



Dr. Oliver Reuss is **Executive Director** of the Venture Fund Digital Healthcare. He leads **Europe/Israel** efforts and is based in Ingelheim, Germany



Dr. Alex Ehlgén is **Executive Director** of the Venture Fund Digital Healthcare. He leads **Europe/Israel** efforts and is based in Ingelheim, Germany