



Science For A Better Life

INNOVATION @ BAYER

WE INSPIRE

WE CONNECT

WE COLLABORATE

WE LEARN

Open Innovation@Bayer

On the benefits of ambition and the power of the difference

Michael Metzloff, Bayer AG, Vice President Corporate Innovation and R&D

My Own Professional Career

1975 – 1992	Martin Luther University Halle-Wittenberg, Germany
1993 – 1999	John Innes Institute Norwich, UK
2000 – 2011	Plant Genetic Systems → Aventis CropScience → Bayer CropScience Gent, Belgium
2012 – today	Bayer Corporate Headquarter, Leverkusen, Germany

Academia



Start-Up



Corporate



It started in 1863 – Friedrich Bayer and Johann Friedrich Weskott established a dye factory





Today Bayer is a leader in Health and Agriculture



PHARMACEUTICALS

- Prescription drugs

CONSUMER HEALTH

- Over-the-counter medicines, dietary supplements, dermatology products, foot care and sunscreen

CROP SCIENCE

- Innovative crop protection and seeds
- Animal Health

We are dedicated to address key challenges of an aging and growing society



PROMOTING
SUSTAINABLE
AGRICULTURE

~ 10 BN

People on the planet by 2050

United Nations 2015

+60%

Productivity increase required
to feed the planet by 2050

FAQ

~ 2 BN

People on the planet will be aged
60 years and older by 2050

WHO

+68%

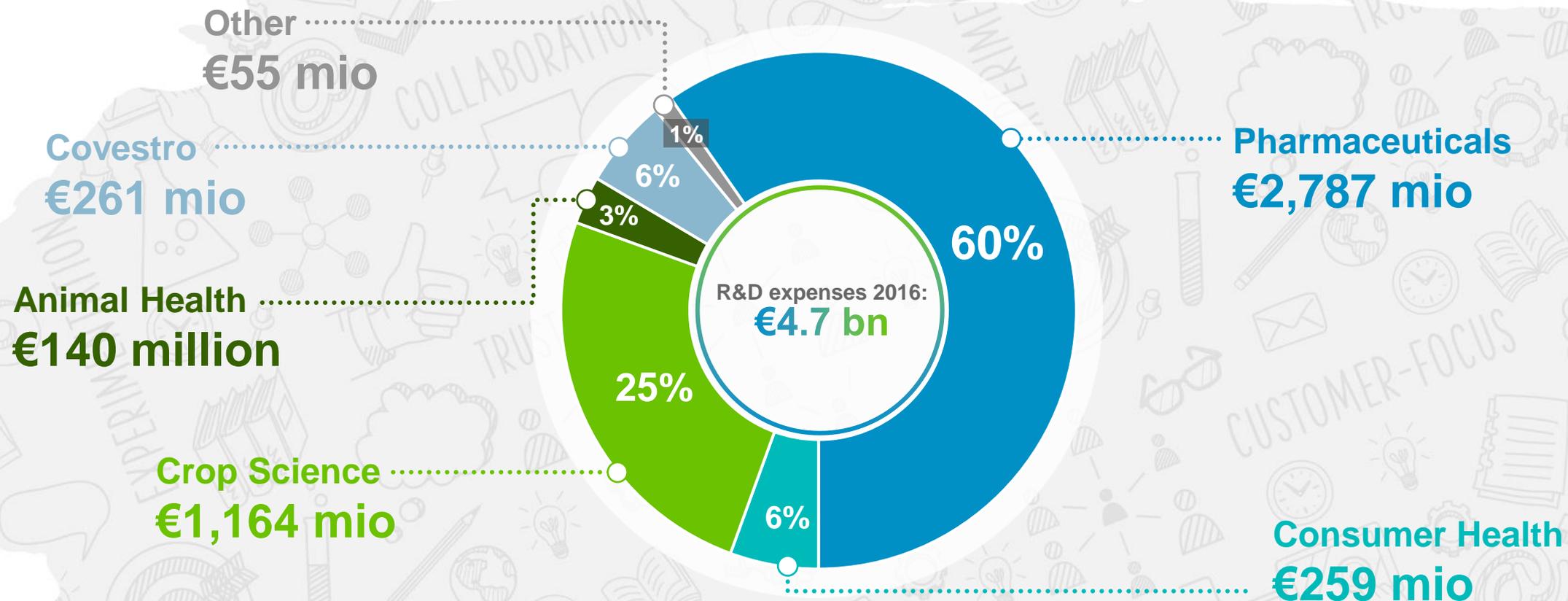
Of deaths are due to non-communicable diseases (2012); most common death due to Cardiovascular diseases, Cancer, Diabetes and Chronic lung diseases

WHO

PROVIDING
HEALTHCARE

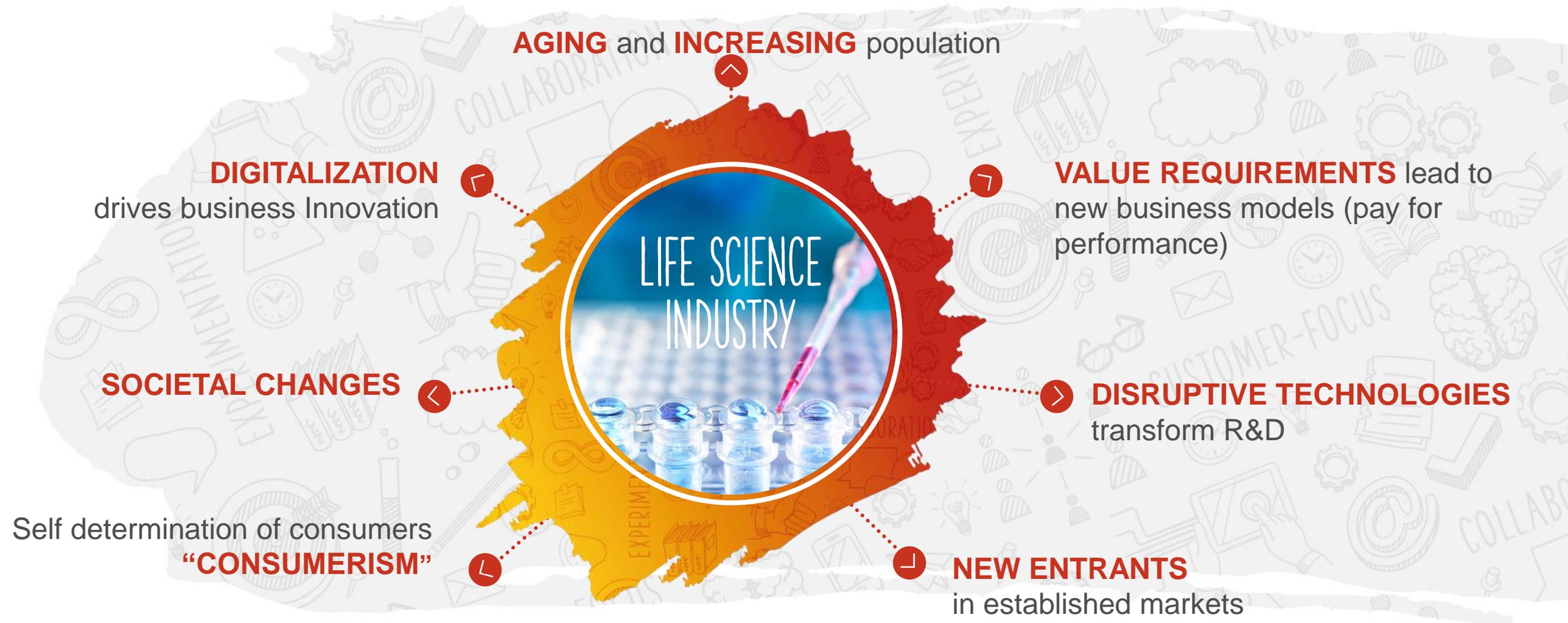


Bayer has a strong commitment to R&D



More than 15.000 people working in R&D

The environment is changing at a rapid pace



Requirements of a Collaborative ECOSYSTEM

- PARTNERING MODELS
- TOOLS
- PROCESSES

➤ OPERATIONAL EXCELLENCE

- COLLABORATION SKILLS
- LEADERSHIP

➤ MINDSET & CULTURE

Bayer HealthCare's approach of flexible partnering models to meet the individual needs of the partners



TYPE

- Joint labs
- Strategic innovation partnership
- Consortia
- Joint research
- Crowdsourcing
- Licensing
- Build to Buy model
- Incubator
- Venture Investments
- Joint Ventures

INVOLVEMENT

CLOSE INTERACTION, SHARED LABS

**MULTIPLE PROJECTS,
CLOSE INTERACTION**

INDIVIDUAL PROJECT

TRANSITION OF ASSETS

ARM'S LENGTH

EXAMPLES

- German Cancer Research Center
- Broad Institute from MIT & Harvard
- Innovative Medicine Initiative
- Bilateral Partnerships
- Grants4Platform
- Lead-Discovery-Center Dortmund
- Inception4Ophthalmology
- CoLaborator SF/Berlin
- Versant Ventures, HTGF, Finistere
- Bayer Life Science Center

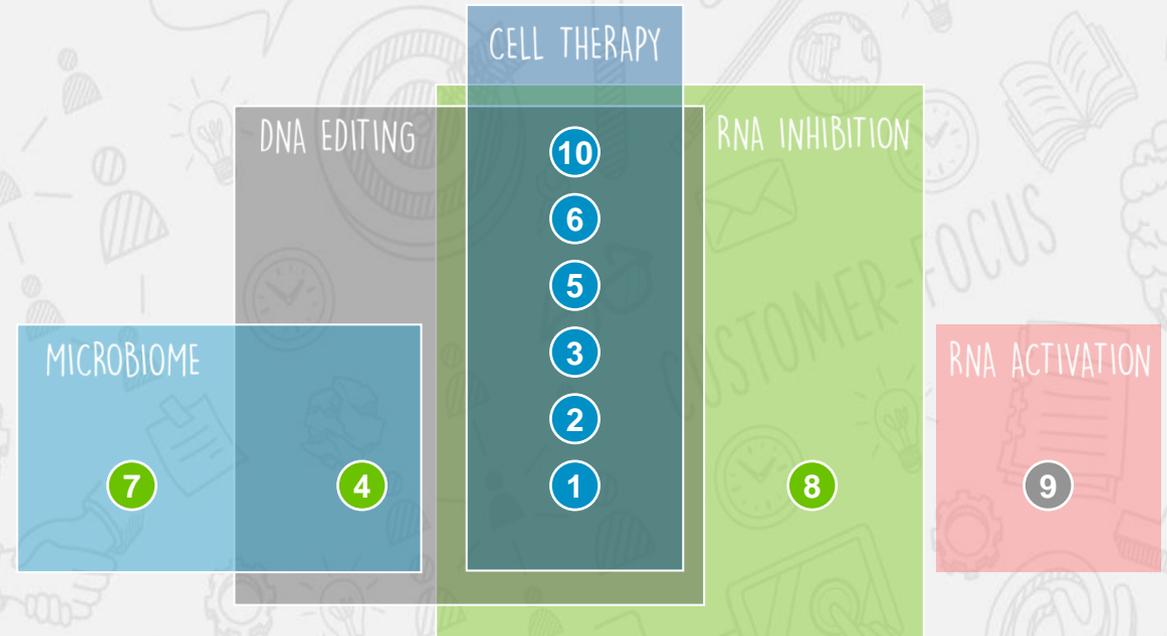
We want to leverage emerging technology platforms to address 10 breakthrough ideas via the Bayer Life Science Center

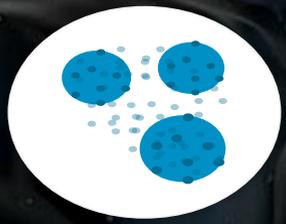


WE HAVE 10 BREAKTHROUGH IDEAS – ACROSS HUMANS, ANIMALS & PLANTS ...

... AND NEED TO ACCESS 5 KEY TECHNOLOGIES TO REALIZE THEM

- | | |
|--|-------------------------------------|
| 1 Cure rare blood disorders | 6 Retina regeneration |
| 2 Cure monogenic blindness | 7 Soil and root health |
| 3 Cure congenital heart disease | 8 Non-toxic insecticides |
| 4 High speed crop breeding | 9 Fast animal Vaccines |
| 5 Scar-less cardiac healing | 10 Plaque-eating macrophages |





Cell therapy

BLUEROCK” – a JV in the field of stem cell therapy to cure heart and neurological diseases



Bayer Open Innovation Family – www.innovate.bayer.com

Grants4Targets™



grants4targets.com

Grants for targets and biomarkers.

Grants4Traits



grants4traits.bayer.com

Grants for novel solutions to increase crop productivity.

Grants4Tech™



grants4tech.bayer.com

Grants for innovative tech solutions in production e.g. robotics

Grants4indications



www.grants4indications.bayer.com

Grants to explore novel indications for Bayer compounds.

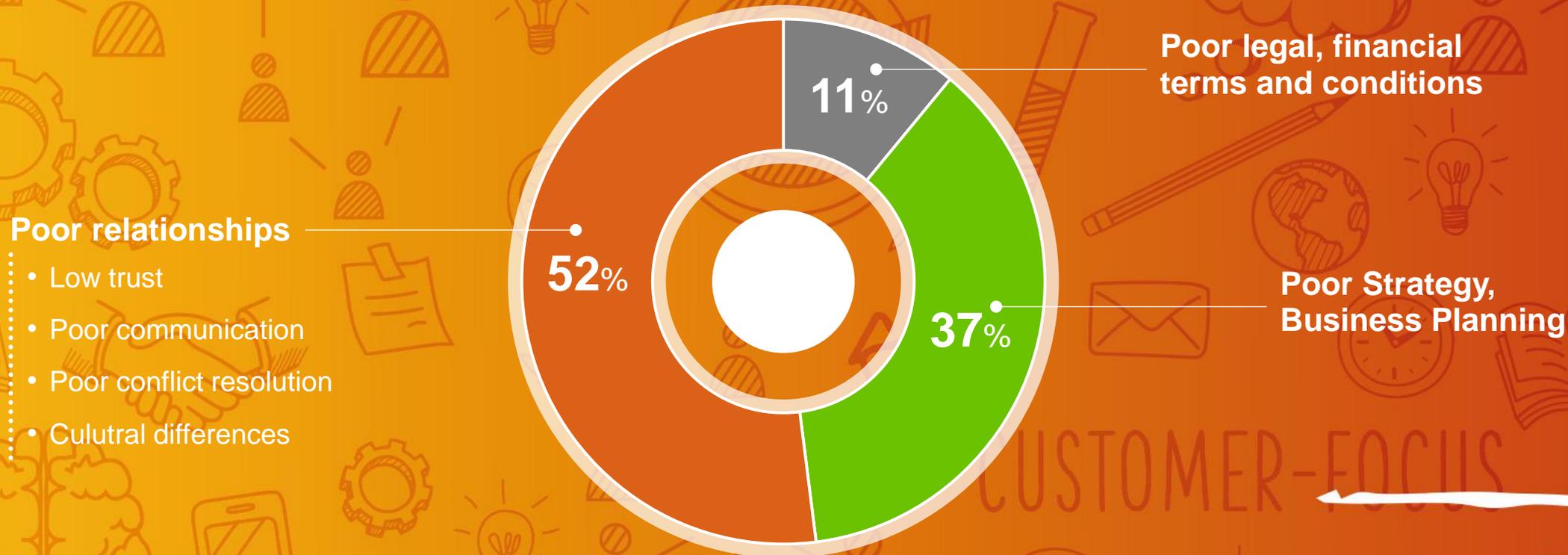
Grants4Apps®



grants4apps.com

Grants for innovative IT projects which may lead to new business models.

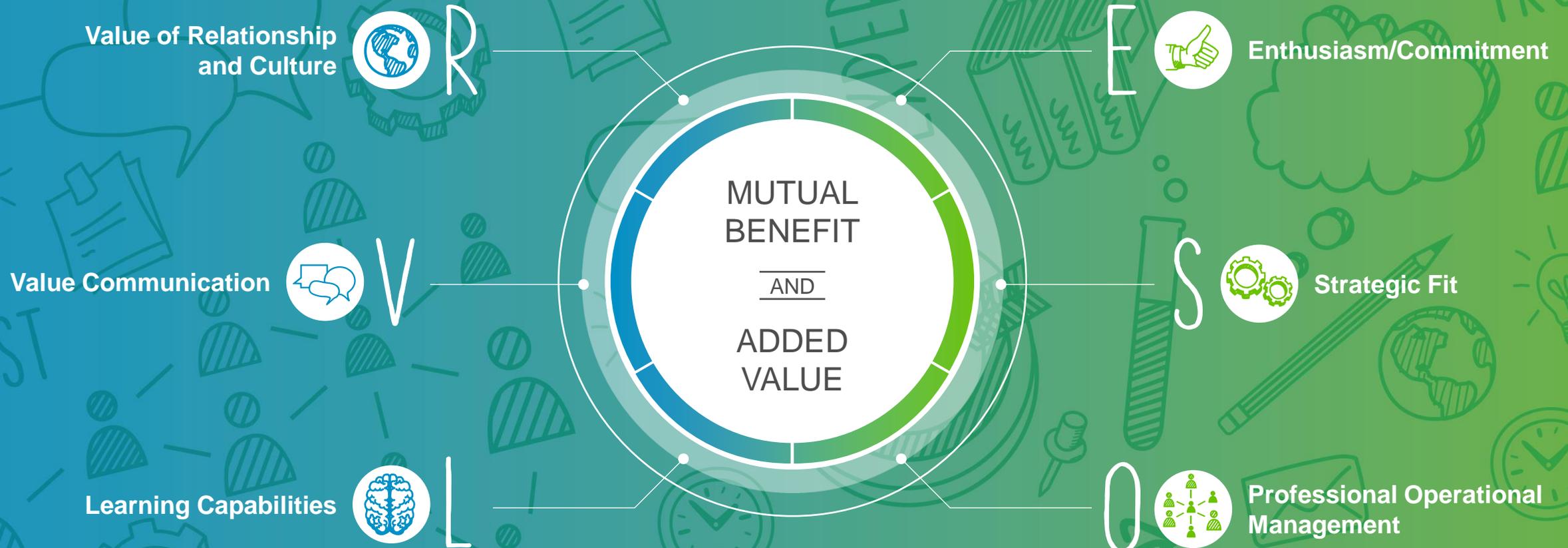
Causes of alliances failures



“Companies already pay careful attention to substance ... but few focus on the primary cause of failure.”

J. Weiss & L.J. Visioni, Vantage Partners

We apply the RESOLVE¹ model for professional management of partnerships



¹ Lessl & Douglas: Wissenschaftsmanagement. (2) 2010, p 34-41

Results of all our efforts are reflected in recent innovation ranking by BCG and Thomson Reuters



THE MOST INNOVATIVE COMPANIES 2016

GETTING PAST "NOT INVENTED HERE"



BCG

THE BOSTON CONSULTING GROUP

EXHIBIT 1 | 2016 Most Innovative Companies

1	Apple	26	Pfizer
2	Google	27	General Motors
3	Tesla Motors	28	JPMorgan Chase
4	Microsoft	29	Johnson & Johnson
5	Amazon	30	AXA
6	Netflix	31	Nike
7	Samsung Group	32	Expedia
8	Toyota	33	Allianz
9	Facebook	34	SpaceX
10	IBM	35	Xiaomi
11	Bayer	36	The Walt Disney Company
12	Southwest Airlines	37	Hilton
13	Hewlett-Packard	38	Renault
14	BMW	39	NTT Docomo
15	General Electric	40	Intel
16	Daimler	41	Marriott International
17	Uber	42	3M
18	Dupont	43	Dell
19	Dow Chemical Company	44	Orange
20	BASF	45	Siemens
21	Airbnb	46	Huawei
22	Under Armour	47	Bristol-Myers Squibb
23	Gilead Sciences	48	Honda
24	Regeneron Pharmaceuticals	49	BT Group
25	Cisco Systems	50	Procter & Gamble

Source: BCG Global Innovation Survey, 2016.

It's all about people!

BAYER

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