Engineering the Medicines of Tomorrow

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This presentation includes forward-looking statements.

This communication contains certain forward-looking statements concerning the MorphoSys group of companies, including its financial guidance for 2019, the commencement, timing and results of clinical trials and release of clinical data both in respect of its proprietary product candidates and of product candidates of its collaborators, the development of commercial capabilities, in particular with respect to tafasitamab (MOR208) and the transition of MorphoSys to a fully integrated biopharmaceutical company, the expected time of launch of tafasitamab, interaction with regulators, including the potential approval of MorphoSys's current or future drug candidates, including discussions with the FDA regarding the potential approval to market tafasitamab, and expected royalty and milestone payments in connection with MorphoSys's collaborations. The forward-looking statements contained herein represent the judgment of MorphoSys as of the date of this release and involve known and unknown risks and uncertainties, which might cause the actual results, financial condition and liquidity, performance or achievements of MorphoSys, or industry results, to be materially different from any historic or future results, financial conditions and liquidity, performance or achievements expressed or implied by such forward-looking statements. In addition, even if MorphoSys's results, performance, financial condition and liquidity, and the development of the industry in which it operates are consistent with such forward-looking statements, they may not be predictive of results or developments in future periods. Among the factors that may result in differences are that MorphoSys's expectations regarding its 2019 results of operations may be incorrect, MorphoSys's expectations regarding its development programs may be incorrect, the inherent uncertainties associated with competitive developments, clinical trial and product development activities and regulatory approval requirements (including that MorphoSys may fail to obtain regulatory approval for tafasitamab and that data from MorphoSys's ongoing clinical research programs may not support registration or further development of its product candidates due to safety, efficacy or other reasons), MorphoSys's reliance on collaborations with third parties, estimating the commercial potential of its development programs and other risks indicated in the risk factors included in MorphoSys's Annual Report on Form 20-F and other filings with the US Securities and Exchange Commission. Given these uncertainties, the reader is advised not to place any undue reliance on such forward-looking statements. These forward-looking statements speak only as of the date of publication of this document. MorphoSys expressly disclaims any obligation to update any such forward-looking statements in this document to reflect any change in its expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements, unless specifically required by law or regulation.

The compounds discussed in this slide presentation are investigational products being developed by MorphoSys and its partners and are not currently approved by the U.S. Food and Drug Administration (FDA), European Medicine Agency (EMA) or any other regulatory authority (except for guselkumab/Tremfya®). Any shown cross-trial comparison between MorphoSys-own investigational products and literature data have significant limitations. Such data comparisons have been prepared at the request of, and for the sole benefit of, the investor community.

MorphoSys at a Glance

Transforming from a technology provider to a fully integrated biopharmaceutical company

Business locations

Headquarter near Munich, Germany; subsidiary in Boston, U.S.

Dual stock market listing

Listed in Frankfurt since 1999 and on NASDAQ since 2018

Proprietary Development business segment

Tafasitamab – MorphoSys key asset in B-cell malignancies

Partnered Discovery business segment

Tremfya®- First MorphoSys antibody brought to market by partner Janssen

Proprietary technology platform

Leading expertise in antibody, protein and peptide engineering

Employees

~405 employees coming from 39 different nations[1)]

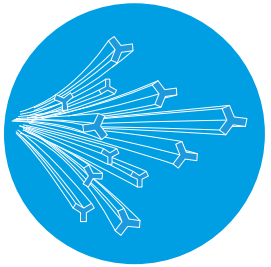
» 27 years of experience contributed to the development of over 100 product candidates

1) As of September 30, 2019

Top Business Priorities

Launch of tafasitamab in the U.S. by mid 2020, in Europe mid 2021

Partnership to broadly develop and maximize the value of tafasitamab



Unlock potential of broad pipeline

Develop MorphoSys to a fully fledged commercial-stage company

Tafasitamab (MOR208) – MorphoSys's Key Asset

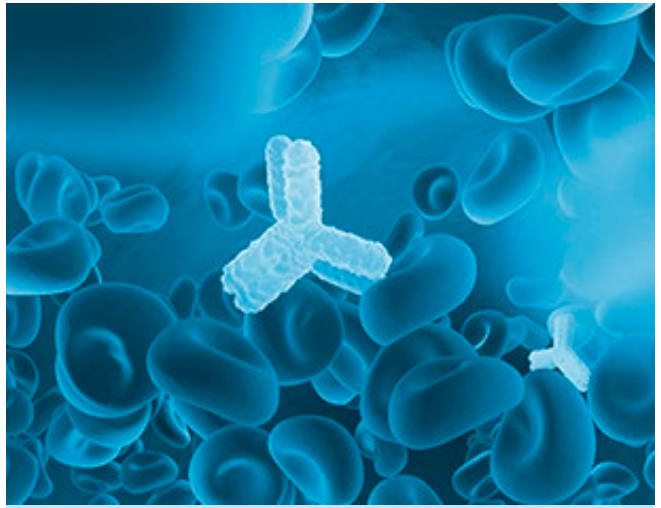
ENFORCER™ antibody targeting CD19

Large opportunity in hematological cancers

- Single agent activity: NHL, CLL & B-ALL
- Readily combined with other agents

Current clinical development

- L-MIND (ph 2), r/r DLBCL: Tafasitamab + lenalidomide
  - Re-MIND: Matched control cohort data reported in October 2019
- B-MIND (ph 3), r/r DLBCL: Tafasitamab + bendamustine vs. rituximab + bendamustine
  - Study successfully passed futility analysis in November 2019
- COSMOS (ph 2), r/r SLL/CLL: Tafasitamab + idelalisib or venetoclax



ENFORCER™

Enhanced **For**mat for **C**ancer **Er**adication

Fc-engineered intended to result in:

- Increased recruitment of effector cells
- Enhanced elimination of cancer cells

» Addressing unmet clinical needs in hematological cancers

NHL: Non-Hodgkin lymphoma; CLL: chronic lymphocytic leukemia; B-ALL: B cell acute lymphoblastic leukemia; r/r: relapsed/refractory; DLBCL: diffuse large B cell lymphoma; SLL: small lymphocytic lymphoma

L-MIND: Tafasitamab + Lenalidomide in r/r DLBCL

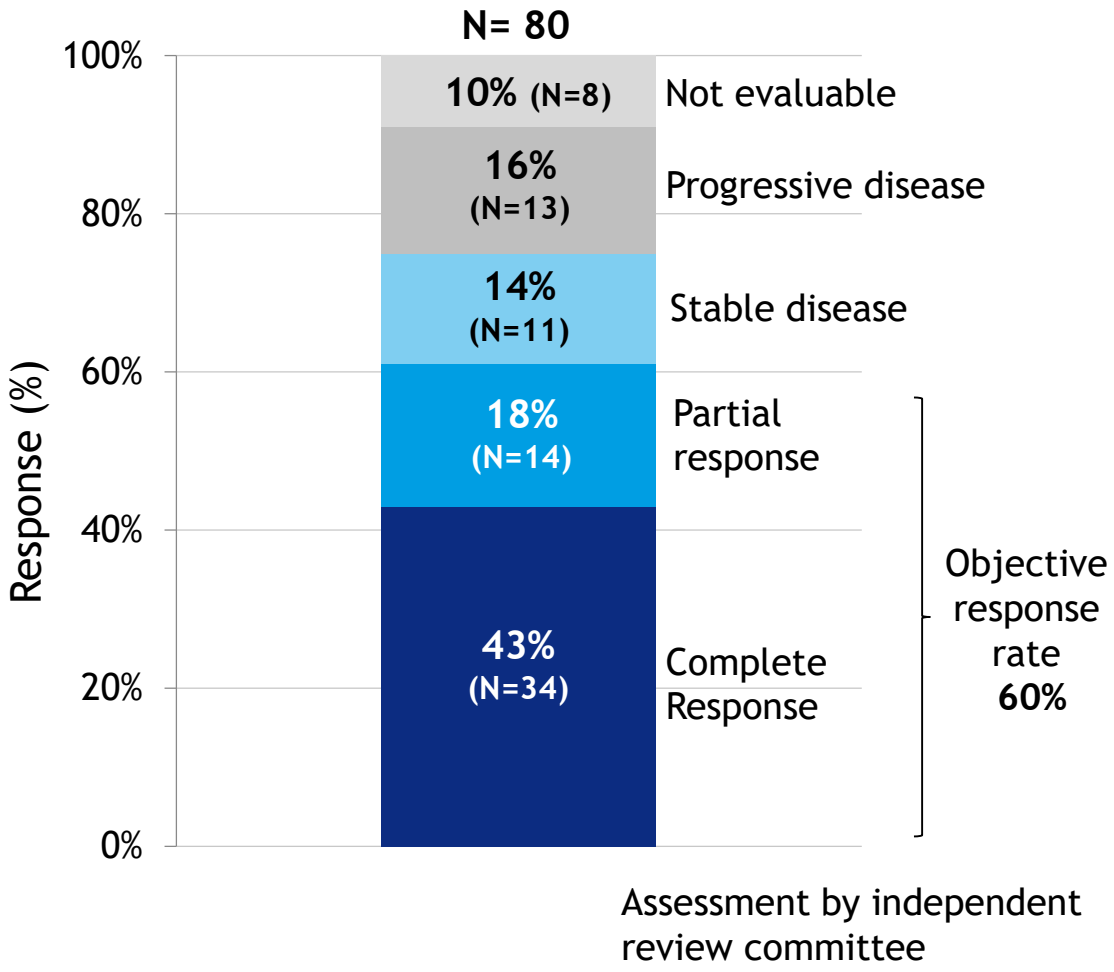
Primary completion with data cut-off November 30, 2018

Complete responders show >90% probability of a durable response of for about 2 years

Long-term treatment effects

- Objective Response Rate 60%
- Median DoR 21.7 months
- Median PFS of 12.1 months
- OS not reached; 12-months OS rate 74%

Basis for regulatory filing in the U.S. and Europe



Compelling data with encouraging long-lasting responses in difficult-to-treat patients

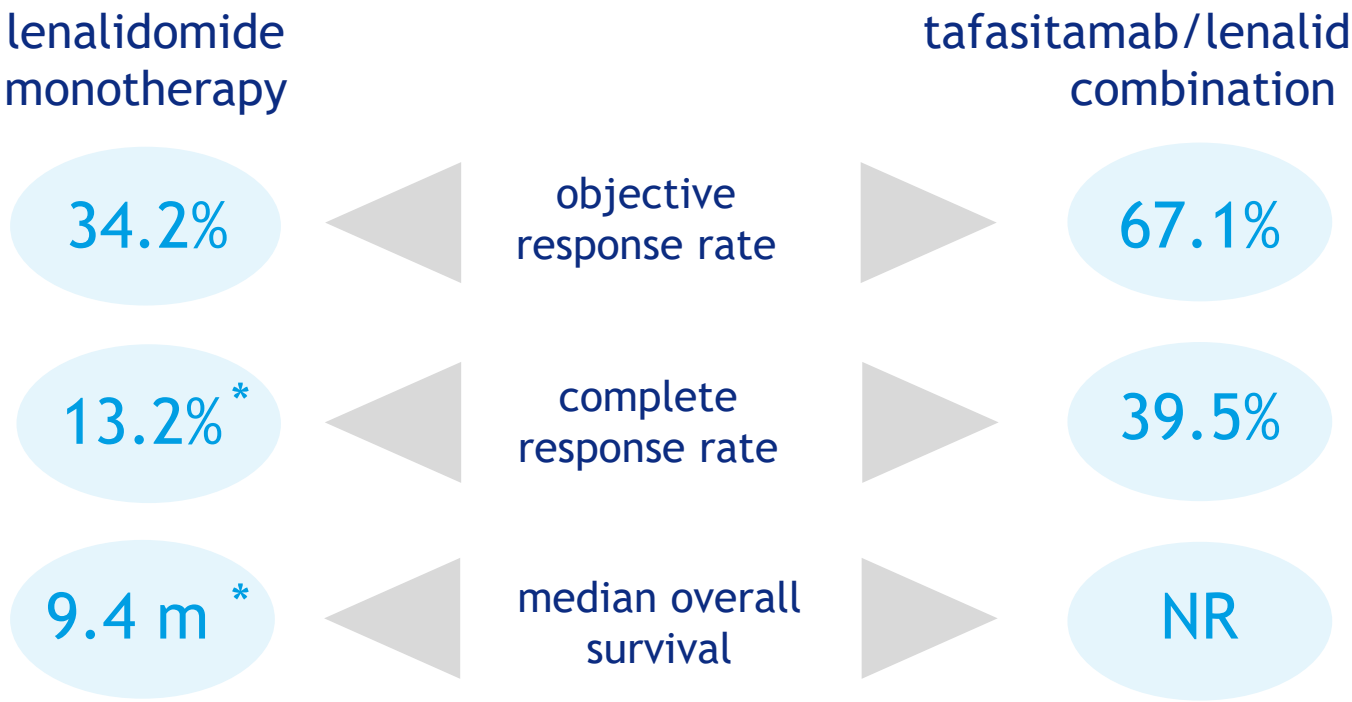
r/r: relapsed/refractory; DLBCL: diffuse large B cell lymphoma; DoR: duration of response; PFS: progression-free survival; OS: overall survival

Re-MIND: Topline data published

Investigational antibody developed in hematological malignancies

Re-MIND Topline Data

- Outcome data of non-transplant eligible r/r DLBCL patients treated with LEN monotherapy in real-world setting
- 76 L-MIND eligible patients were matched 1:1 with 76 patients from Re-MIND
- Data will be part of BLA submission which is on track to be completed by end of the year

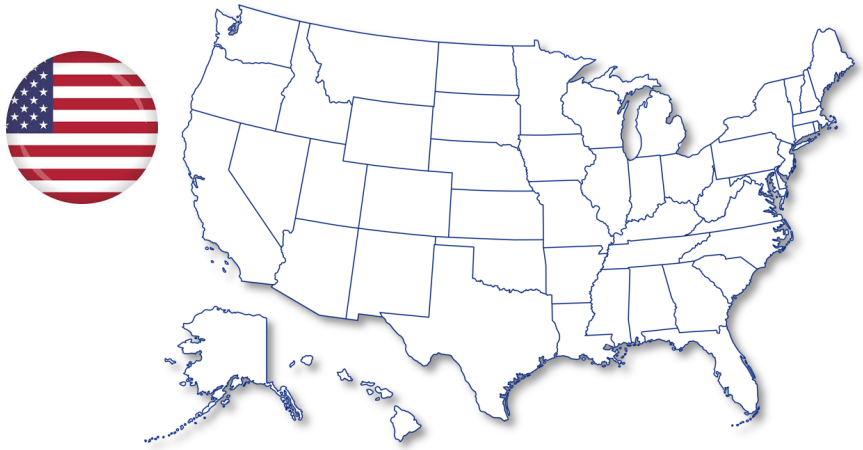


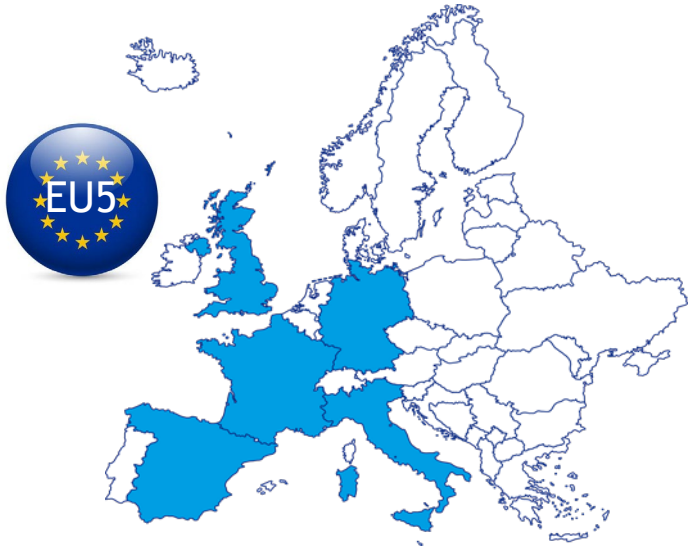
- All data investigator-assessed
- Data based on 76 patients of each cohort

» Probability to decease is reduced by 50% in the tafasitamab-LEN combination vs the LEN-monotherapy (hazard ratio = 0.499*)

r/r: relapsed/refractory; DLBCL: diffuse large B cell lymphoma; LEN: lenalidomide * Updated

Market Opportunity for Tafasitamab in r/r DLBCL





3rd Line	ASCT ineligible: **~4.100 patients**	ASCT ineligible: **~2.700 patients**
2nd Line	ASCT ineligible: **~5.900 patients**	ASCT ineligible: **~3.800 patients**
	Potential **~10.000 patients**	Potential **~6.500 patients**
1st Line	**~31.800 patients**	Upside Potential **~20.700 patients**

Manufacturing and commercial supply secured by Boehringer Ingelheim

Source: DRG Epidemiology data; Kantar Market Research (TPP testing 2018), Friedberg et al., 2011; ASCT: autologous stem cell transplantation

Tafasitamab Value Proposition

Opportunities

- Pipeline in a product: Late stage asset with large opportunities in multiple therapeutic applications
- Focus on broadening the development of tafasitamab into earlier lines and other indications to maximize value
- Goal to position tafasitamab + lenalidomide as chemo-free and easily accessible treatment option in r/r DLBCL

2019/2020 catalysts

L-MIND:
- BLA submission, U.S. FDA end-2019
- MAA submission, European EMA by mid-2020

B-MIND:
- Primary analysis data expected in Q1 2022

Frontline study in DLBCL:
- Initiate phase 1b trial in Q4 2019
- Preparatory work for pivotal phase 2/3 planned to start mid-2020

COSMOS study in CLL:
- Data to be presented at ASH in December 2019

Working towards fast and easy access of patients to tafasitamab

r/r: relapsed/refractory; DLBCL: diffuse large B cell lymphoma; BLA: Biologic License Application; FDA: Food and Drug Administration; MAA: marketing authorization application; EMA: European Medicines Agency

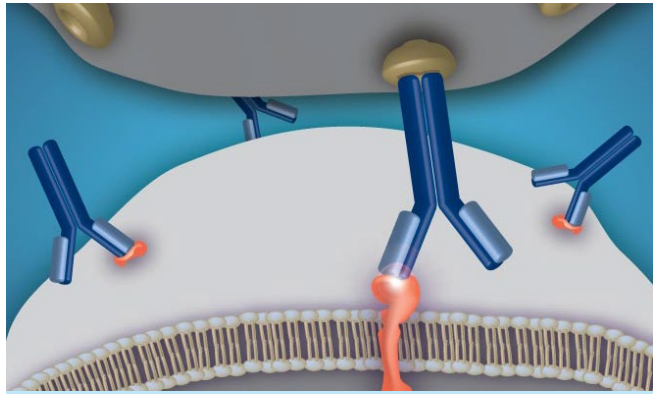
MOR202: Propritary Antibody against CD38

Current clinical development

- I-Mab: Greater China
  - Pivotal ph 3: MOR202 + LEN in 2L multiple myeloma
  - Pivotal ph 2: MOR202 in 3L multiple myeloma

2019/2020 catalysts

- MorphoSys: Clinical trial in membranous nephropathy in Q4 2019
- I-Mab: Clinical development in multiple myeloma
- I-Mab: Planned development in systemic lupus erythematosus



Financials and deal terms

- I-Mab has exclusive development and commercialization rights in China, Taiwan, Hong Kong and Macao
  - Up-front: $20m
  - Milestones: Up to $100m
  - Royalties: Tiered, double-digit
- MOR retains rights in the rest of the world

Seizing opportunities in oncology and autoimmune diseases

LEN: lenalidomide; 2L: second line, 3L: third line

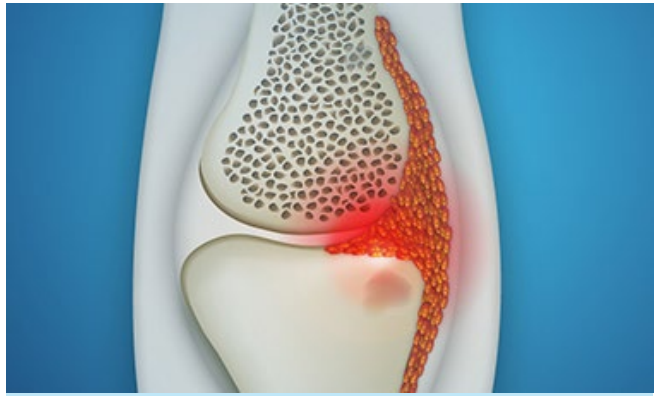
Otilimab[1]: Proprietary Antibody Against GM-CSF

Current clinical development

- Ph 3 clinical development program started by GSK in July 2019
  - ContRAst program: 3 pivotal studies and long-term extension study
  - Otilimab compared against approved drugs (JAK inhibitor / anti-IL-6 antibody)
  - Plan to enroll ~3500-4100 patients
  - Triggered €22m milestone payment to MorphoSys

Upcoming catalysts

- First data-readout expected H2 2022



Financials and deal terms

- HuCAL antibody fully out-licensed to GSK in 2013
  - Up-front: €22.5m
  - Milestones: up to €423m
  - Royalties: Tiered, double-digit
- GSK responsible for the development and commercialization of the compound in all therapeutic fields

Blocking a key inflammatory pathway in rheumatoid arthritis

1) GSK3196165, previously MOR103; GM-CSF: granulocyte-macrophage colony stimulating factor; JAK: Janus Kinase; IL: interleukin

Portfolio of Proprietary Development Programs

Program	Partner	Target	Disease area	Ph 1 Ph 2 Ph 3
Tafasitamab (MOR208)	-	CD19	▪ DLBCL (B-MIND) ▪ DLBCL (L-MIND) ▪ CLL (COSMOS)	
MOR202	MorphoSys development I-Mab Biopharma[1)]	CD38	Multiple myeloma	
Otilimab (MOR103)	GSK	GM-CSF	Rheumatoid arthritis (ContrAst 1-3)	
MOR106[2)]	Novartis/ Galapagos	IL-17C	Further development currently under investigation	
MOR107[3)]	-	AT2-R	Oncology under investigation	

Proprietary Development Programs Out-licensed Proprietary Development Programs

Preclinical and early research in oncology

MOR210	I-Mab Biopharma[1)]	C5aR
PQ912	Vivoryon Therapeutics	QPCTL enzymes

1) For Development in China, Hong Kong, Macao, Taiwan and South Korea; 2) All clinical development in atopic dermatitis stopped; parties will explore future strategy
3) A phase 1 study in healthy volunteers was completed; currently in preclinical investigation; iv: intravenous; sc: subcutaneous

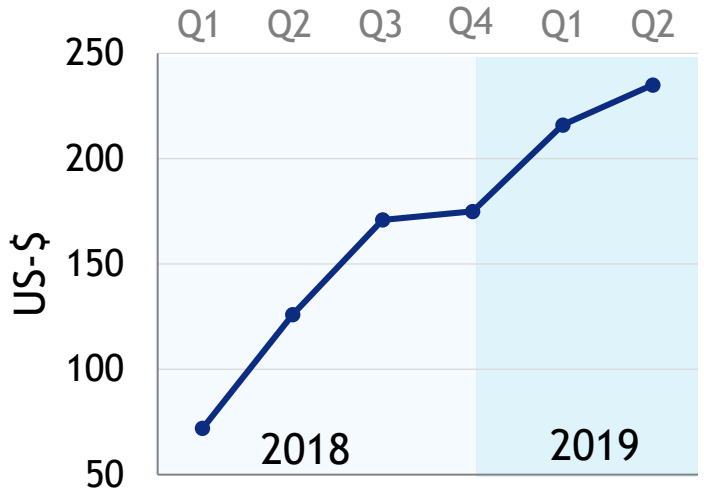
Tremfya® (Guselkumab)

IL-23 antibody, generated using MorphoSys's HuCAL technology

2019/2020 catalysts

- Tiered royalty stream (guidance of €30 to 35m for 2019)
- Recent supplemental BLA submission to FDA, psoriatic arthritis
- sBLA submission to EMA until end of 2019 (according to Janssen)

Tremfya® sales reported by Janssen



Strong clinical development commitment

Phase 1	Phase 2	Phase 3	Approved/ Launched
▪ Familial adenomatous polyposis	▪ Crohn's disease ▪ Hidradenitis suppurativa ▪ Ulcerative colitis	▪ Plaque psoriasis ▪ Pustular/erythrodermic psoriasis ▪ Psoriatic arthritis	▪ Psoriasis[1)] ▪ Psoriatic arthritis[2)] ▪ Palmoplantar pustulosis[2)]

First MorphoSys antibody brought to market by partner Janssen

1) U.S., EU, Canada, Brazil, Australia, Japan; 2) Japan; IL: Interleukin; BLA: biologic license application; FDA: Food and Drug Administration; EMA: European Medicines Agency

Financials

In € million	Reported FY 2018	Reported Q1-Q3 2019	Guidance 2019[1] (As of July 3, 2019)
Group Revenues	76.4	60.7	65 to 72[2]
Proprietary R&D Expenses (incl. Technology Development)	98.3	68.8	95 to 105
EBIT	-59.1	-56.3	-105 to -115

Cash Position September 30, 2019: €412.4 m

Total ordinary shares issued as of September 30, 2019: 31,927,958

Germany, Frankfurt Stock Exchange: MOR

U.S., NASDAQ Global Market: MOR

1) Guidance update in connection with milestone payment of €22m from GSK after start of phase 3 clinical development program with otilimab (MOR103/GSK3196165) in rheumatoid arthritis.
2) Revenues are expected to include royalty income from Tremfya® ranging from €30-35m on constant $ currency.

Summary

Well on track with our top priority: Approval and efficient launch of tafasitamab in r/r DLBCL in the U.S.

Strongly engaged to ensure unlocking tafasitamab's potential as a pipeline in a product

Fully committed to establish MorphoSys as a strong player in the hematology-oncology space

Thank You

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