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Investor Relations

Novartis enters into agreement to acquire Xiidra®

May 9, 2019

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Xiidra® strengthens leadership in ophthalmic pharmaceuticals with de-risked asset and attractive economics

1. Xiidra® fits strategically within Novartis' industry-leading USD 4.6bn[1] ophthalmic pharmaceutical portfolio and pipeline, laying groundwork for future launches

2. Xiidra® is the only prescription treatment approved for both signs and symptoms of dry eye disease with a mechanism of action that targets inflammation

3. De-risked USD 0.4bn[1] in-market asset, with blockbuster potential in a large and growing patient population addressing high unmet need

4. Attractive economics, global rights, accretive to sales in 2019, margin in 2021; closing expected in 2019, subject to satisfaction of customary closing conditions

1. 2018 calendar year sales

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Xiidra® fits strategically within Novartis' leading ophthalmic portfolio, pipeline and existing infrastructure

- Xiidra® is an innovative treatment approved for signs and symptoms of dry eye
- Xiidra® would provide a bridge from current mature front of the eye portfolio to innovative potential future launches
- Novartis is well positioned to maximize Xiidra® potential by leveraging existing front of the eye marketing expertise and scale, including market access

Existing ophthalmic pharmaceuticals portfolio – indicative brands

1. Ex-US only

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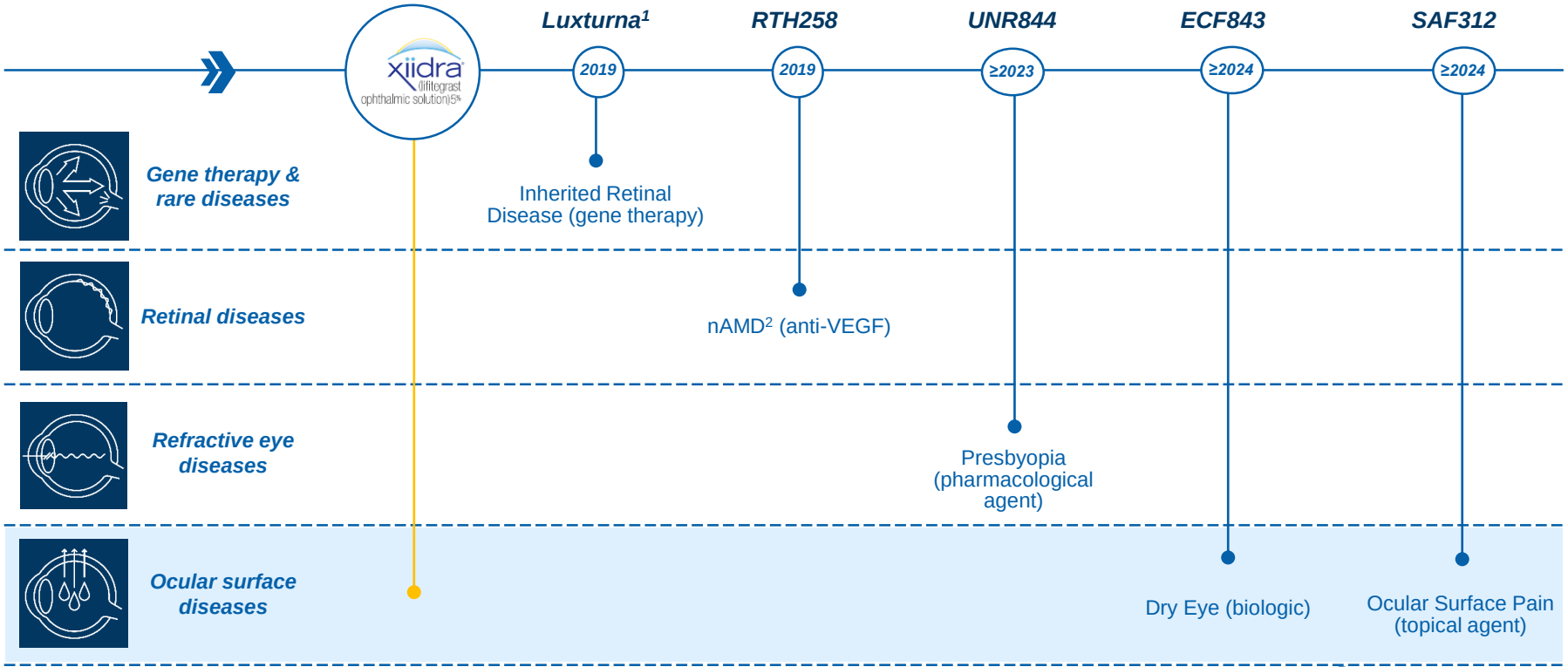
Xiidra® helps lay groundwork for potential future innovative launches



Note: timeline is not to scale
Note: UNR844, ECF843, SAF312 all in Phase II development
[1] Approved in the US (marketed by Spark Therapeutics) and EU (marketed by Novartis)
[2] Pending regulatory approvals. DME and RVO indications are planned

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Transaction Highlights (expected closing H2 2019)

Scope	• Global rights • Approximately 400 full time employees mostly in the US
Consideration	• Initial payment of USD 3.4 billion and additional contingent payments up to USD 1.9 billion structured to appropriately capture upside value for both companies • First contingent payment would be due once Xiidra® reaches annual sales of USD 1.2 billion
Financing	• The transaction will be fully financed by cash on hand by Novartis
Financial Benefits	• Expected to contribute to Group sales in 2019 • Expected to be accretive to Group core operating income from 2020 • Expected to be accretive to Group core operating income margin from 2021
Other	• Closing expected in second half of 2019, subject to satisfaction of customary closing conditions, including regulatory approvals

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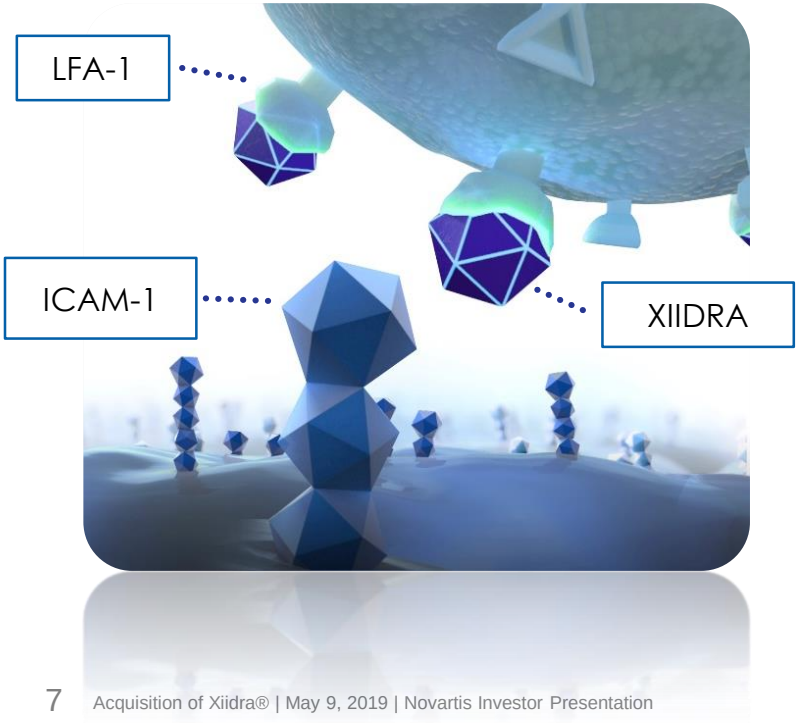
Xiidra® is the first and only Rx treatment approved for signs and symptoms of dry eye disease with a MOA that targets inflammation



- Xiidra® is designed to block the interaction between LFA-1[1] and ICAM-1[2], inhibiting the immunological synapse (IS)
- Inhibits T-cell recruitment and activation and reduces pro-inflammatory cytokine release
- Unique Label:
  - Approved for signs and symptoms
  - Fast onset of action, 2 weeks to 3 months
  - Tolerable safety profile

[1] lymphocyte function-associated antigen-1
[2] intercellular adhesion molecule-1

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Source: US prescribing information and Semba CP, Gadek TR. Development of lifitegrast: a novel T-cell inhibitor for the treatment of dry eye disease. *Clin Ophthalmol*. 2016;10:1083-1094;

Summary of clinical data[1]

Scope	Approximately 1,000 patients were treated with Xiidra® in four placebo-controlled 12-week trials
Symptoms	In all four studies, a larger reduction in the Eye Dryness Scale (EDS) score was observed with Xiidra® at six and 12 weeks
Fast onset	In two of the four studies, an improvement in EDS was seen with Xiidra® at two weeks
Signs	At week 12, a larger reduction in inferior corneal staining score (ICSS) favoring Xiidra® was observed in three of the four studies

[1] FDA. Xiidra® (lifitegrast ophthalmic solution). Prescribing information. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2016/208073s000lbl.pdf

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Xiidra® opportunity currently focused on US and Canada; Ex-US opportunities to be explored

Launched

- Xiidra® launched in US in 2016, sales currently in the US and Canada
- Majority of current dry eye prescription demand is in the US and Canada

Rest of world

- Global rights acquired
- Approved and under review in several countries
- Commercialization opportunities will be reviewed following closing

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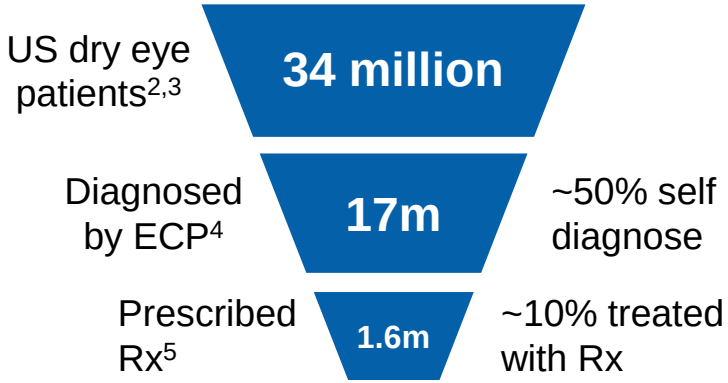
Dry Eye Disease is one of the most common reasons patients visit an eye care professional[1]

Underdiagnosed and undertreated



Increasing incidence due to

- Aging population
- Digital devices use
- Contact lens wear

Significant unmet need. US prescriptions expected to increase significantly with increasing incidence and use of more effective therapies

1. Nichols KK et al. Inv Ophthalmol & Vis Sci. 2016;57:2975-2982 2. Paulsen AJ et al. Am J Ophthalmic. 2014;157(4):799-806 3. US Census Bureau. Annual estimates of the resident population for selected age groups by sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2014, 4. Schaumberg et al, 2013, Prevalence of diagnosed dry eye in the US, Marketscope 2018 report – Diagnosed Dry Eye patients in the US, 5. Novartis Dry Eye market forecasts in the US, Mar 2019, validated with IQVIA TRx and NBRx claims data

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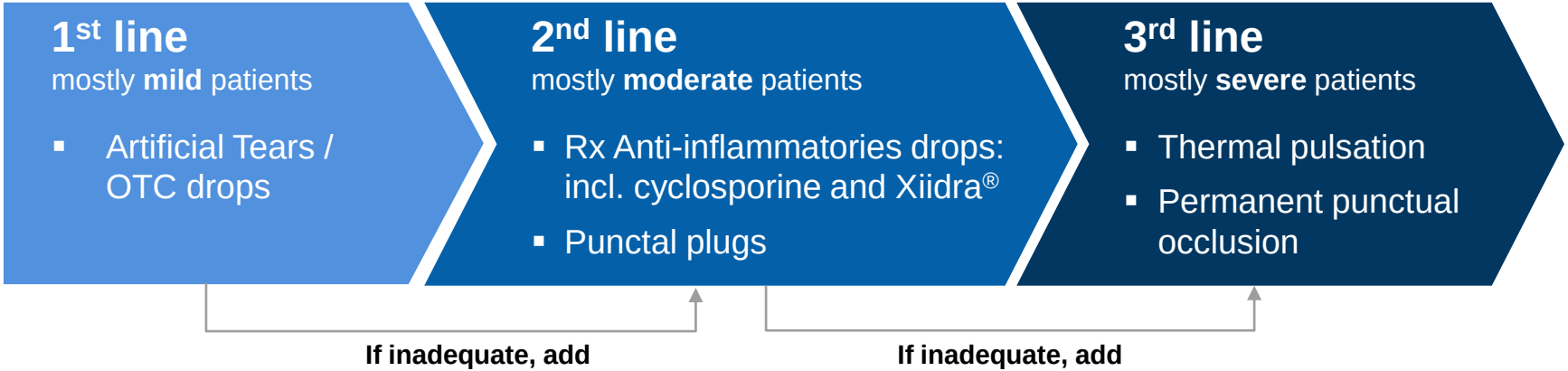
Xiidra® addresses a high unmet need in the dry eye treatment paradigm



- Cyclosporine emulsion has its limitations, including onset of action up to 6 months[1]
- Even with the availability of cyclosporine, vast majority of surveyed ophthalmologists desired additional treatment options[1]

Source: Adapted from DEWS Management and Therapy (www.tearfilm.org). 1. Semba CP, Gadek TR. Development of lifitegrast: a novel T-cell inhibitor for the treatment of dry eye disease. *Clin Ophthalmol*. 2016;10:1083-1094

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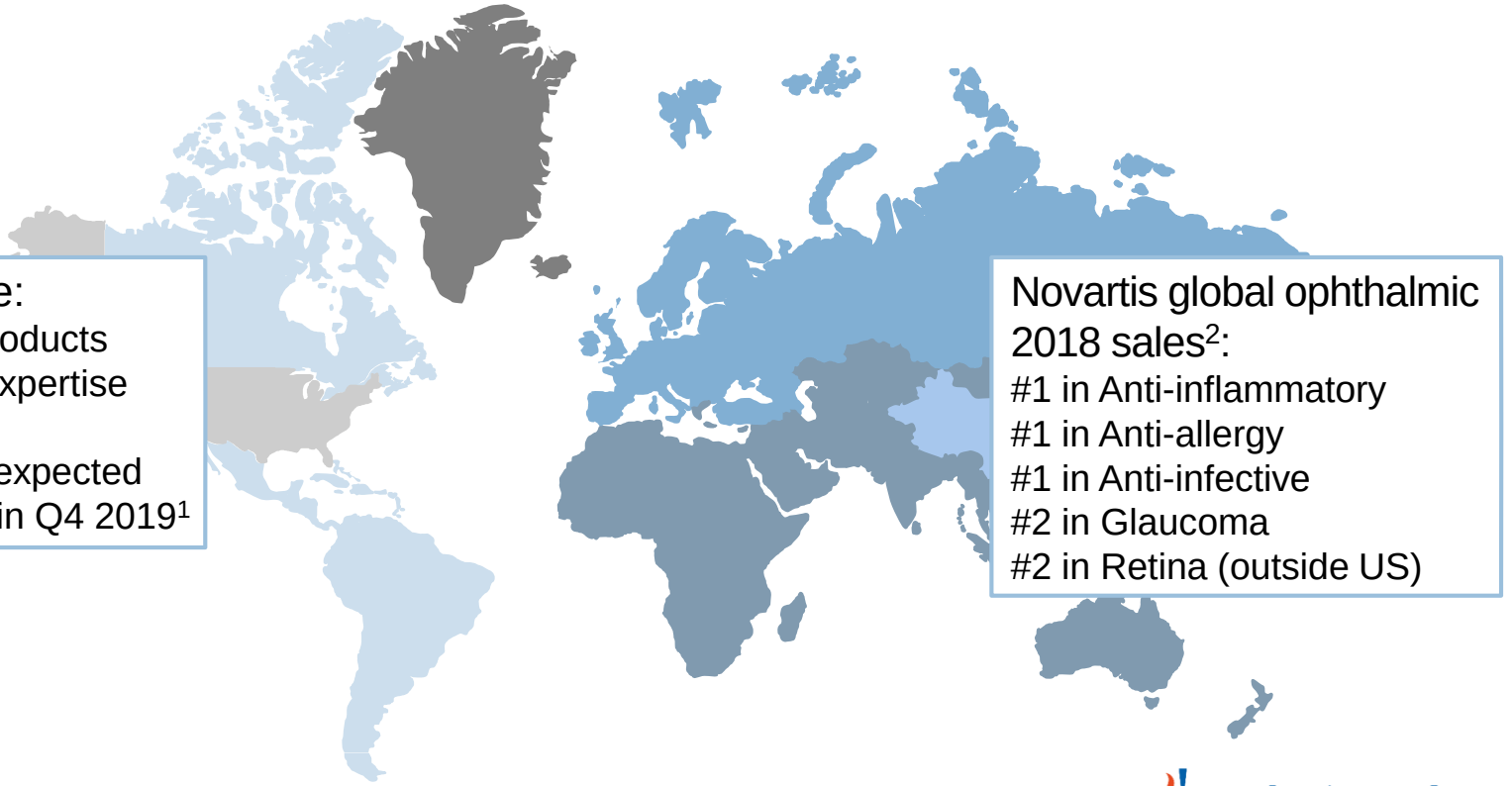
Novartis industry leadership and commercial infrastructure setup to continue Xiidra® success & maximize its potential



US Infrastructure:
- 375 FF in-line products
- Market access expertise
- Field medical
- Retina team for expected RTH258 launch in Q4 2019[1]

Novartis global ophthalmic 2018 sales[2]:
#1 in Anti-inflammatory
#1 in Anti-allergy
#1 in Anti-infective
#2 in Glaucoma
#2 in Retina (outside US)

[1] Pending regulatory approval
[2] Rankings based on 2018 sales from IQVIA

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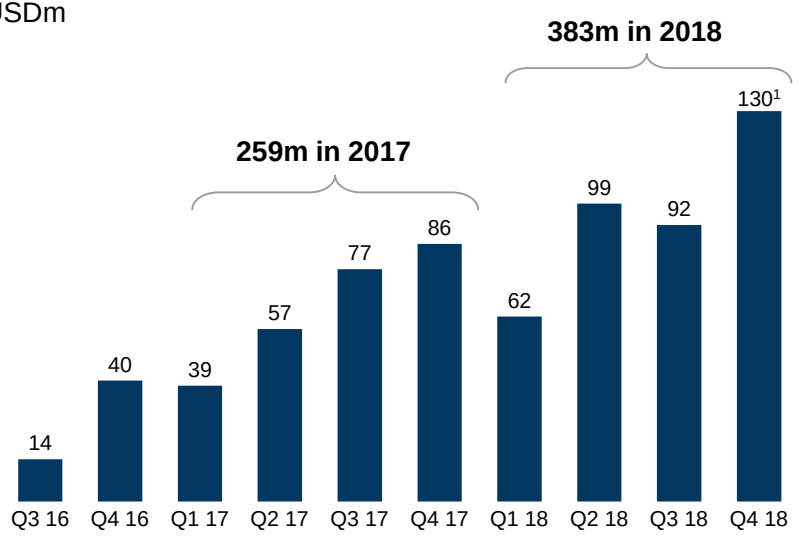
Confident in Xiidra® blockbuster potential with unique profile, growing market and Novartis expertise

Xiidra® US Net sales per quarter

USDm



Source: Shire and Takeda disclosures based on calendar year end 1. partly benefitting from stock in trade movements

- Xiidra® grew +48% in 2018
- High unmet need & unique profile
- Leverage Novartis scale and expertise in eye care, including market access
- Optimize DTC to maximize brand awareness

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Conclusion

- Fits strategically within Novartis' industry leading ophthalmic pharmaceutical portfolio and pipeline
- Xiidra® is the first and only Rx treatment approved for signs and symptoms of dry eye disease with a MOA that targets inflammation
- De-risked in-market asset, with blockbuster potential in a large and growing patient population

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