



November 2021

A leading bioscience company

accelerating medical solutions from innovation
to impact



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Company Overview

01

Investment Highlights

Disruptive diagnostic pipeline

Rapid, point-of-care diagnostic and screening tests for COVID-19, infectious diseases and oral health indications

World-class drug delivery expertise

Oral dissolvable film (ODF) and transdermal (TDS) drug delivery platforms offering precise, efficient, optimized bioavailability

Near-term market & exit opportunities

A late-stage pipeline of proprietary diagnostic and generic & hybrid-generic therapeutic innovations



Efficient M&A execution

Management committed to building shareholder value through buy & build strategy

R&D collaborations

Leveraging world-class academic expertise and state-of-the-art facilities in Germany and Canada with limited capital investment

Unique psychedelic programs

First-mover advantage and industry leadership in the development of industrial scale production of pharmaceutical grade psychedelic compounds and engineering of novel psychedelic analogues

Company Profile

Diagnostics

Lead product is a **rapid point-of-care COVID-19 RT-PCR diagnostic test** launched in Europe in Q2 2021.

Diagnostic development pipeline includes a portfolio of **real-time ultra low-cost infectious disease biosensors**.

Drug Delivery

Platform thin-film technology to develop innovative cost-effective **transdermal (TDS) and oral dissolvable (ODF) formulations** of generic, hybrid-generic, and new active pharmaceutical ingredients.

Psychedelic Medicine

Development of 2 industrial scale **GMP psychedelic production** processes and chemical engineering of **patentable psychedelic analogues**

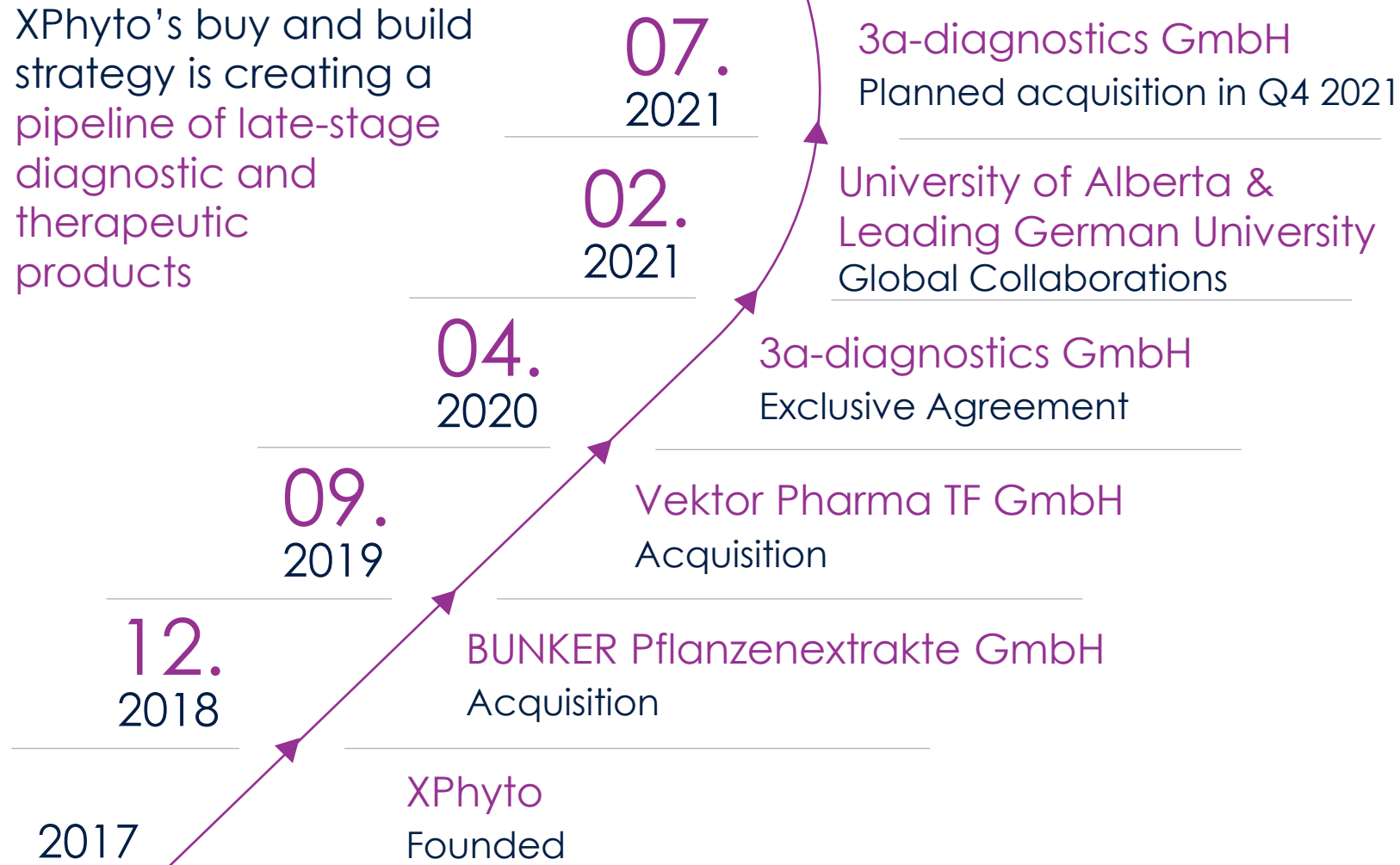


Bioscience Company
with proven therapeutics
and innovative diagnostics
approaching the market.

Headquartered in Canada
Made in Germany

Buy and Build Strategy

XPhyto's buy and build strategy is creating a pipeline of late-stage diagnostic and therapeutic products



Rapid, low-cost pathogen screening tests for pandemic and oral health applications



Two psychedelic medicine collaborations underway with leading institutions in Germany and Canada



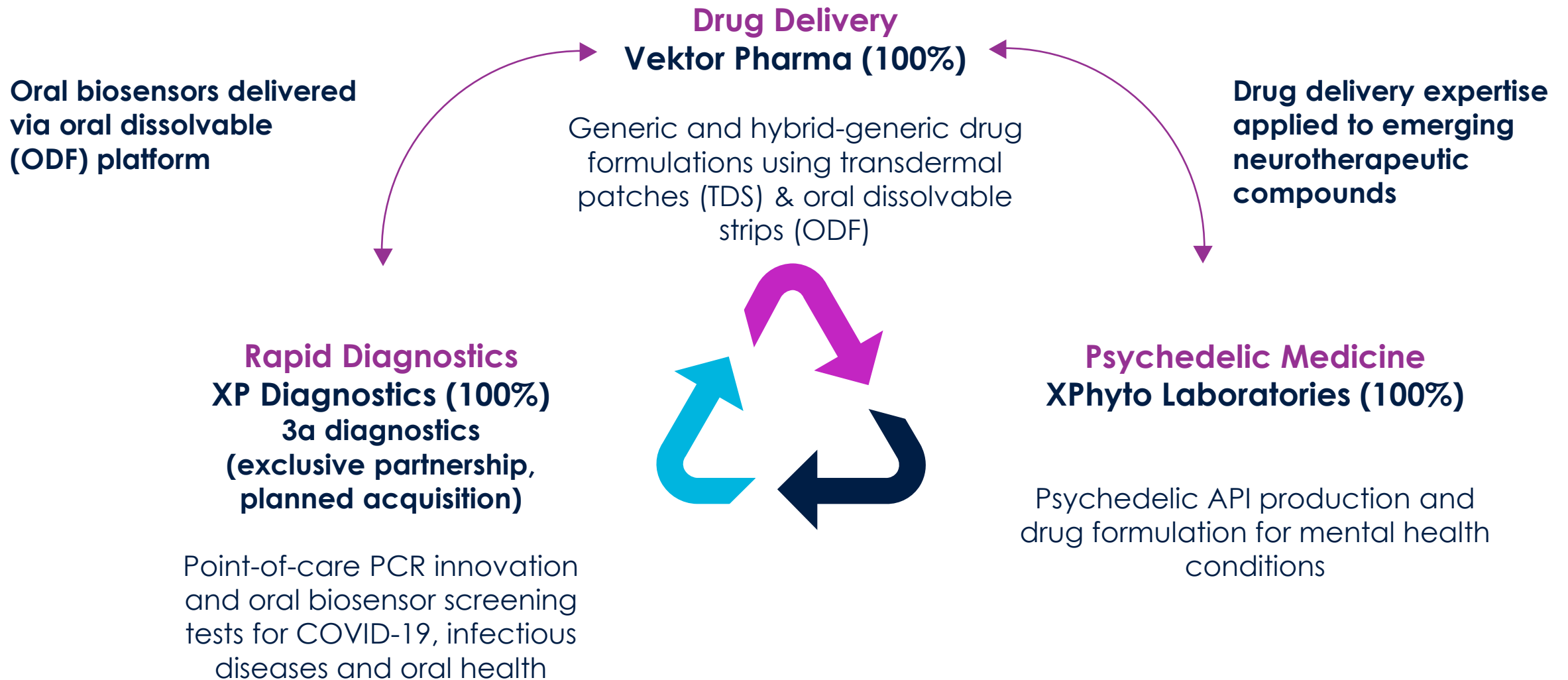
Experts in thin film drug delivery systems for transdermal and oral dissolvable dosage forms



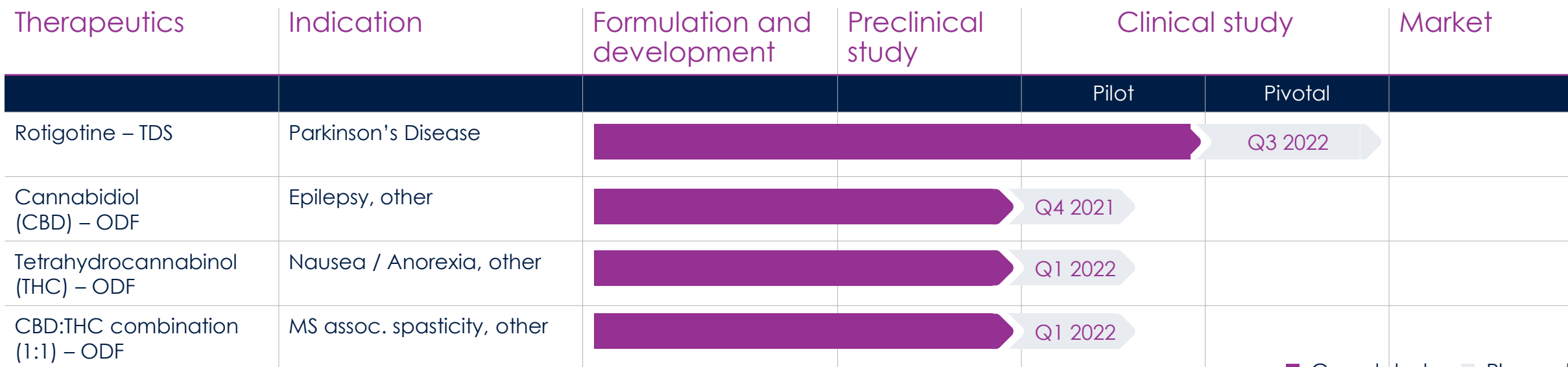
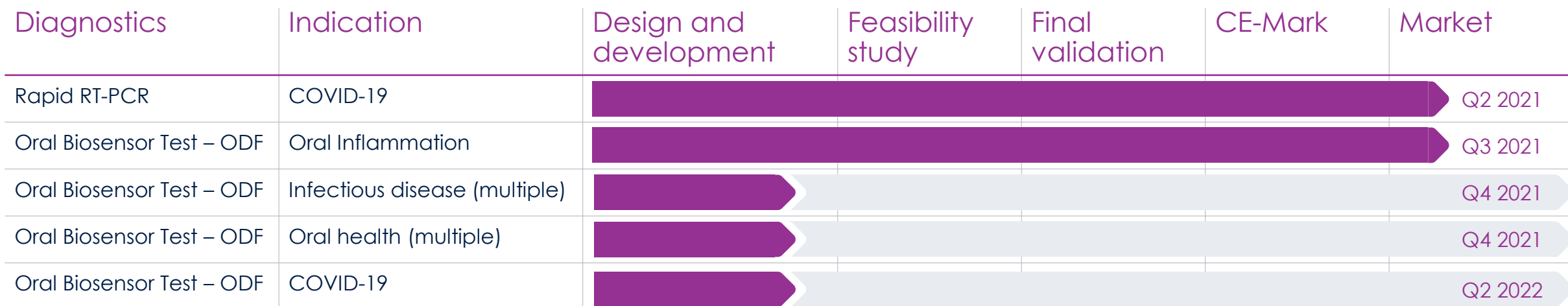
Unique BfArM (Bundesinstitut für Arzneimittel und Medizinprodukte) licenses



XPhyto Companies & Synergies



Product Pipeline



■ Completed ■ Planned

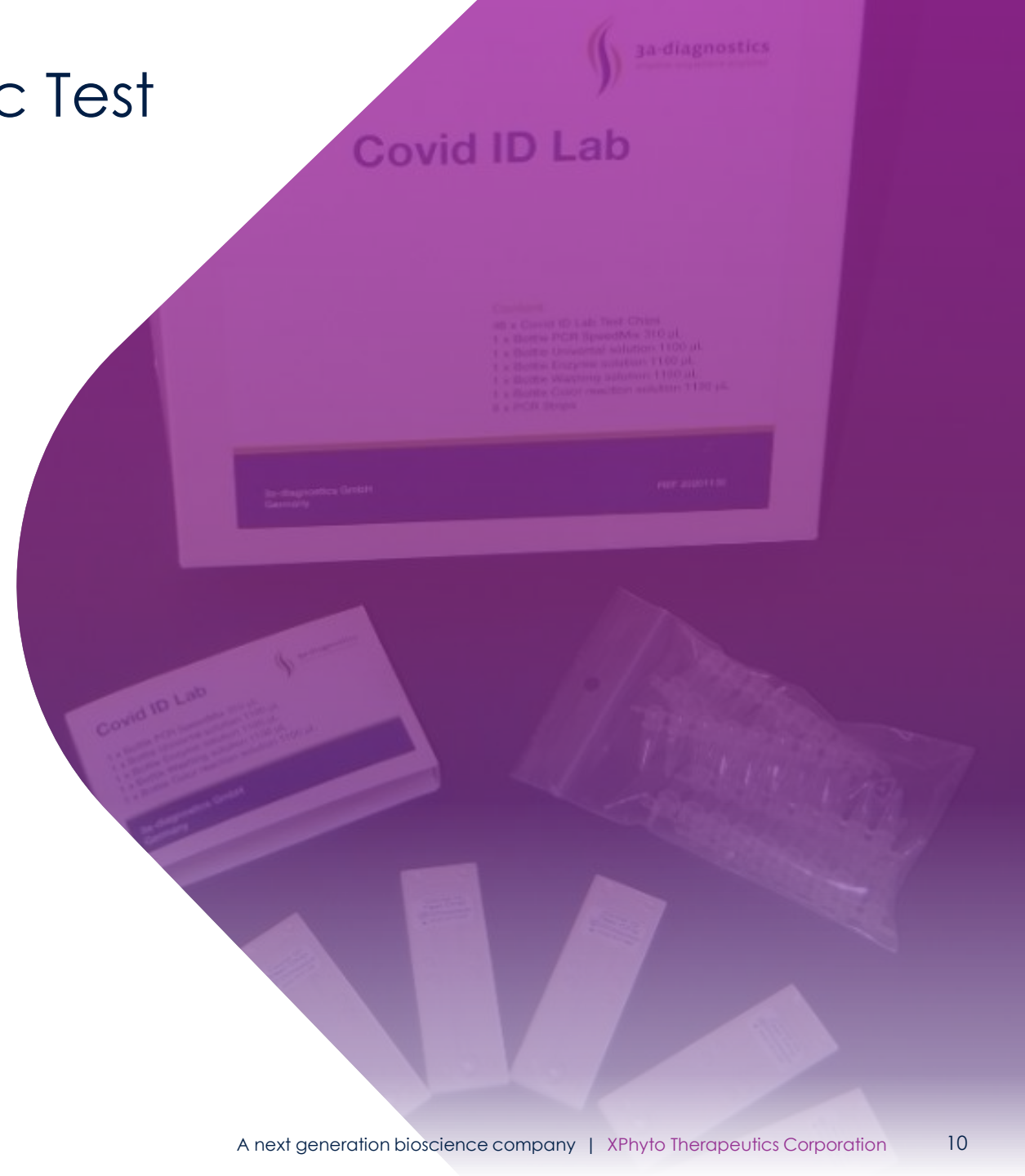
Rapid diagnostics

02

COVID-19 Rapid RT-PCR Diagnostic Test

Commercial Launch Q2 2021

- ✓ **Rapid PCR test in 25 minutes**
5 min hands-on and 20 min thermocycler reaction
- ✓ **Point-of-care diagnostic device**
no sample shipping to centralized testing lab
- ✓ **Low detection limit**
diagnostic reliability of PCR
- ✓ **Cost-effectiveness**
economic testing at moderate and low volumes
- ✓ **Easy to use**
minimal training and lab equipment required
- ✓ **Easily accessible**
small batches (1-96) using nasal or throat swab



Oral biosensors

Advantages

- ✓ **Tongue as a sensor**
presence of pathogens is indicated by bitter taste

- ✓ **Unique proprietary platform technology**
biosensors for various pathogens, including COVID-19

- ✓ **Accessible, easy-to-use testing**
no infrastructure or expert knowledge required

- ✓ **Rapid testing**
results in 2-5 minutes

- ✓ **Cost-effectiveness**
low cost enables broad testing, pre-screening and self-monitoring

Product strategy

ODF test for oral inflammation

- EU product registration in Q3 2021
- simple at-home self-check to improve oral health

ODF for COVID-19

- Approval and launch expected in Q1 2022
- Rapid, low-cost screening system for pandemic self-monitoring

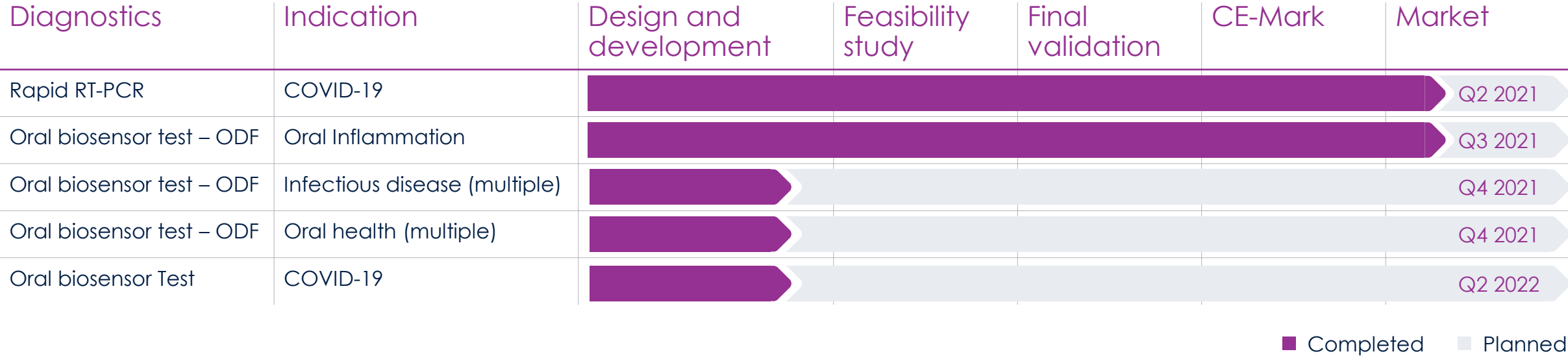
ODF for peri-implantitis

- EU product registration expected Q4 2021
- Early detection of infection associated with dental implants

H1N1 (Swine Flu) and H5N1 (Avian Flu) Oral Biosensors

- Approval and launch expected in Q1 2022
- German government funded

Diagnostic Pipeline



Rapid & ultra rapid new medical device products

Initial launch in Europe

State funding

USD \$39.1 billion

The global rapid test market is projected to reach USD \$39.1 billion by 2023 with a **CAGR of 8.9 %**



Drug Formulation

03

Innovative delivery platforms

Thin-film technology platform

- Innovative thin film formulations of generic, hybrid-generic and new active pharmaceutical ingredients (API)
- Development and manufacturing of transdermal patches (TDS) and oral dissolvable films (ODF)

Advantages

- ODF platform is compatible with most drugs
- Low-cost, effective and non-invasive drug delivery
- Precise dosing of API
- Improved patient convenience

Applications

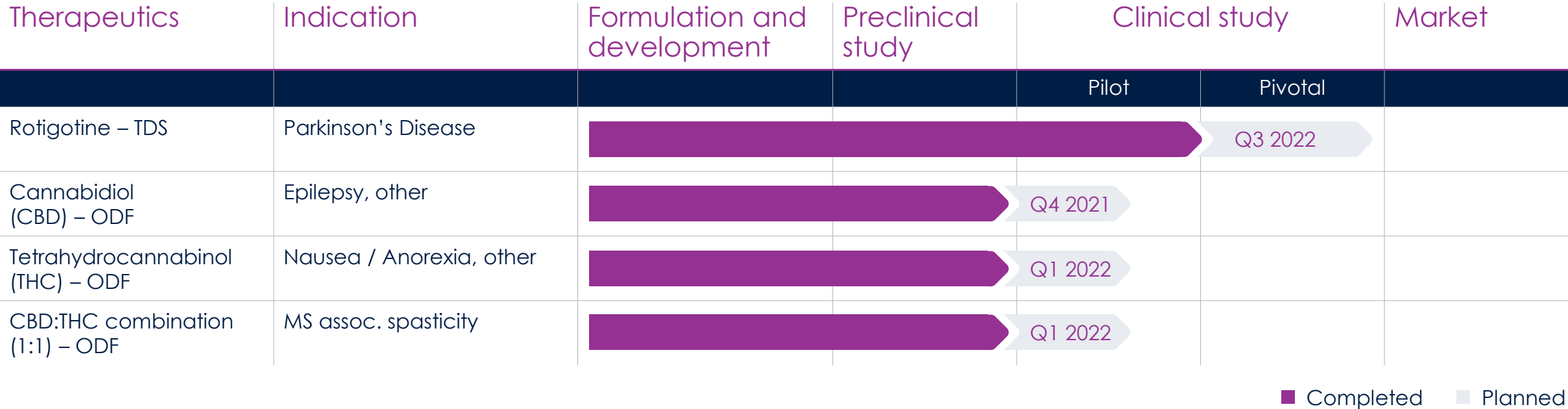
Therapeutics

- Rotigotine transdermal patch for Parkinson's disease to be advanced to a pivotal human trial in 2022
- ODF dosage forms for CBD, THC, and CBD/THC for increased bioavailability, product efficacy and ease of use

Diagnostics

- Compatibility of the ODF platform with 3a-diagnostics' peptide biosensors
- Low-cost mass production for population-scale self-screening

Drug Formulation Pipeline



Generic and Hybrid-generic formulations

Approved off-patent drugs in equivalent or novel delivery systems

Low development risk and scalable

Expedited regulatory timeline and reduced cost

Improvement

Pharmacokinetics, bioavailability, convenience

Initial approval and launch

European Union / Germany

USD \$29.2 billion

The global thin film drugs market is expected to grow to USD \$29.2 billion by 2024 at a **CAGR of 10.5%.***

Psychedelic medicine

Opportunities

Psychedelics as new APIs

- Psychedelic compounds have the potential to overcome shortcomings of traditional neurotherapeutics

Indications with high unmet medical need

- Psilocybin designated as a “breakthrough therapy” twice by the U.S. FDA for the treatment of major depressive disorder and treatment-resistant depression
- Potential in multiple common mental health-related indications, e.g. anxiety, addiction, anorexia, PTSD

Market potential

- Global antidepressant drug market is predicted to reach approx. USD \$16B by 2023, with an estimated CAGR of 2.1% from 2017 to 2023 according to Allied Market Research

Strategy

Pharmaceutical grade psychedelic production

- Exclusive agreement with Applied Pharmaceutical Innovation (API) in Canada for the development of industrial-scale GMP production processes for mescaline
- Chemical engineering of patentable psychedelic analogues

Drug formulations

- Application of XPhyto's drug delivery expertise to emerging neurotherapeutic compounds
- Development of standardized drug formulations with safe and precise dosing for clinical studies and therapeutic use

Clinical validation

- Validation of psychedelic drug formulations in the treatment of addiction, trauma, anxiety, and depression

Strategy, Market,
and Team

04

Strategy (M&A)

Planned 3a Acquisition

- ✓ The acquisition creates **significant commercial development and manufacturing opportunities** for XPhyto as well as **cost synergies** and **improved margins** on its diagnostic products.

- ✓ The acquisition secures XPhyto an **experienced research and development team** with a pipeline of **ready-to-launch biosensor products**.

- ✓ The acquisition facilitates XPhyto's aggressive expansion into the **point-of-care biosensor market**.

- ✓ XPhyto will pay 3a-diagnostics a total of EUR 3.9 million to acquire 100% of 3a-diagnostics.

Market Overview

> Thin film products

Global thin film drugs market is expected to grow to **USD \$29.2 billion** by 2024 at a CAGR of 10.5 %^A.

Key players are MonoSol Rx, Tesa Labtec GmbH, Pfizer, Inc., Novartis AG, and Wolters Kluwer, Solvay, Allergan plc. Sumitomo Dainippon Pharma Co., Ltd., IntelGenx Corp, and Transition Therapeutics, Inc^B

Disease indication:

Schizophrenia, Migraine, Opioid Dependence, Nausea & Vomiting

> Rapid-diagnostic test

The global rapid test market is projected to reach **USD \$39.1 billion** by 2023 with a CAGR of 8.9 %.^C

Some **Key players** are ACON Laboratories, Inc., Abbott Laboratories, Artron Laboratories Inc., Alfa Scientific Designs, Inc. Becton, Dickinson and Company, BTNX, Inc., bioMérieux SA, Bio-Rad Laboratories, Inc., Danaher Corporation, F. Hoffmann-La Roche AG

> COVID-19 test

The global COVID-19 diagnostics market size is estimated at **USD 19.8 billion** in 2020.^D

The global COVID-19 diagnostics market is expected to grow at a compound annual growth rate of 3.1 % from 2021 to 2027 to reach **USD 24.6 billion** by 2027.

Until today **approx. 14.5 mil** COVID-19 tests have been administered in Germany^E

Players like QIAGEN, Quidel Corporation, Roche Holding AG, Hologic, Inc., Primerdesign Ltd., Abbott Laboratories, Cosara Diagnostics Pvt. Ltd., Thermo Fisher Scientific, AlphaBiolabs Ltd. Cepheid Inc

> Psychedelic Medicine

The global antidepressant drug market is predicted to reach approx. **USD \$16 billion** by 2023, with an estimated CAGR of 2.1% from 2017 to 2023.^C

Psilocybin is designated as a “breakthrough therapy” twice by the U.S. FDA for the treatment of major depressive disorder and treatment-resistant depression

Management and team

Management



Hugh Rogers

LLB CEO & director

Lawyer, B.Sc

Extensive experience in venture capital, capital markets, and biotechnology



Prof. Dr. Thomas Beckert

Managing director

Founder and managing director of Vektor Pharma

Experienced in formulation and machine development for thin film delivery systems



Manfred Buchberger

Head of Corporate Development

Expert in the medical and diagnostics products industry

Almost a decade of experience as a CEO and global management board member of a €600 Mio revenue diagnostics manufacturer.

Board Directors



Per Thoresen

Director

25 years of experience including executive roles with pharmaceutical companies.

MD of Nycomed Pharma AS, acquired by Takeda Pharmaceuticals. Total value: approx. USD \$14B.



Prof. Dr. Raimar Löbenberg

Director

Founder and director of the Drug Development and Innovation Center, Faculty of Pharmacy and Pharmaceutical Science, University of Alberta, Canada

Co-founder of RS Therapeutics Inc.



Wolfgang Probst

Director

Management consultant specialized in investment consulting and capitalization.

Expert in mergers and acquisitions, corporate re-organizations, and divestitures.



Peter Damouni

Director

Entrepreneur and financier with over 18 years of experience in investment banking and capital markets.

More than 10 years as a director or an officer of different private and public companies listed on the TSX, the TSXV and LSE.

Recent Developments



Business Highlights

- Planned Q4 acquisition of 3a-diagnostics GmbH
- Acquisition of Vektor Pharma TF GmbH
- Exclusive psychedelic API production partnerships

Diagnostics

- COVID-19 PCR Test launched Q2 2021
- Oral biosensors launch Q3 2021
- Multiple biosensors in development pipeline

Drug Formulation

- Transdermal - Rotigotine
- Oral Dissolvable - CBD, THC, and CBD:THC
- Low-cost, expedited, and scalable development pipeline

Outlook



Psychedelic Medicine

- Exclusive development deal with Canadian University for industrial scale synthesis of pharmaceutical grade Mescaline
- Exclusive development deal with German University for industrial scale biotech production of pharmaceutical grade Psilocybin

Non-dilutive Funding

- Funding from German Federal Ministry of Education and Research for development of real-time ultra low-cost biosensors for high-risk pandemic threats such as Influenza A, swine flu and avian flu

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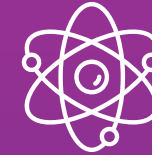
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