



Corporate Presentation

January 2023

Healthcare in Africa

23% of Global Disease Burden, Disproportionate Share



Population

16% of the global population;
60% of African population live in rural isolated areas, 83% excluded from healthcare services



Infrastructure

1% global healthcare expenditure;
0.3 physician, 1.0 nurse, 1.3 hospital beds per 1,000 people



Affordability

High costs of biologic treatments combined with **out-of-pockets** payments limiting access



Diagnosis

Low, resulting in **poor outcome**; in cancer, as many as 80% of patients diagnosed late/end stage

Minapharm Group Journey in Biopharma Started 20+ Years Ago



MiGenTra, Healthcare Transforming Medicines for Africa

Incorporated April 2021 by ProBioGen AG and MinaPharm Pharmaceuticals



Dedicated to the **end-to-end development** and **commercialization of high quality affordable biologic medicines** in the field of Biosimilars, Cell- and Gene Therapies and Vaccines to **serve the needs of patients across Africa and the Middle East**, a unique constellation hard to be replicated in the foreseeable future.

Berlin, Germany

[MiGenTra's Website](#)

ProBioGen

Intelligent Biopharmaceutical Solutions

Internationally known partner with 20 years experiences in biopharmaceutical cell development, manufacturing & analytic of complex therapeutic proteins.

Berlin, Germany; 250+ employees

[ProBioGen's Website](#)

MINAPHARM

PHARMACEUTICALS 

A leading pharmaceutical company backed by more than 65 years of experience. Only gene-to-market biopharmaceutical company in Africa & the Middle East with over 20 years of track record in biotech and local end-to-end manufacturing site in Egypt, GMP compliant.

Cairo, Egypt; 1,500+ employees

[Minapharm's Website](#)

[Minapharm's Portfolio](#)



Organizational Chart

Executive Team



Dr. Lutz Hilbrich
Chief Executive Officer,
MiGenTra GmbH &
ProBioGen AG



Dr. Shaheer Bardissi
Executive Board Member,
Minapharm Pharmaceuticals



Frédéric Bouvier
Head Corporate Development
& Business Development &
Licencing, MiGenTra GmbH



Andrea Hauptmann
Chief Financial Officer,
MiGenTra GmbH &
ProBioGen AG

International External Advisors

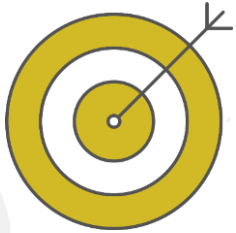


Heidi Hunter,
President Specialty Solutions Business at
Cardinal Health, US



Prof. Dr. Petra Reinke,
Professor of Medicine & founding director of the Berlin
Center for Advanced Therapies (BeCAT), Germany

Healthcare is a Human Right



Mission

Providing **quality & affordable** biological medicines to **more patients** across **Africa & the Middle-East**



Vision

Transforming healthcare in Africa & the Middle East

Strategic Pillars: TREAT

Holistic Approach to Delivering on Our Ambition.



THERAPIES

Bring an industry-leading portfolio of biologic therapies covering multiple modalities to market



REACH

Geographic expansion and telehealth solutions to serve the maximum number of patients
















TRANSFORMATION

Make innovation affordable by providing quality biologic therapies at affordable prices

Pipeline of Biosimilars

Healthy Balance Between In-House and In-Licensed Assets.

	Product	Molecule	Therapeutic Area		Early Phase	Preclinical	Clinical	CPP Dates
In-house Development	Bonosome	TERI paratide	Osteoporosis					2023 ^[1]
	Adessia	ADA limumab	Autoimmune					undisclosed
	Zevanzia	BEVA acizumab	Oncology					undisclosed
	Trastulia	TRASTU zumab	Oncology					undisclosed
	MGT-2201	undisclosed	Oncology					undisclosed
	MGT-2202	undisclosed	Oncology					undisclosed
Commercial Rights to Middle-East & Africa ^[3]	AVT04	USTE kinumab	Autoimmune					2024 ^[2]
	AVT06	AFLI bercept	Ophthalmology					undisclosed
	AVT03	DENO sumab	Autoimmune, Oncology					undisclosed
	AVT05	GOLI umab	Autoimmune					undisclosed
	AVT23	OMAL izumab	Respiratory					undisclosed
	AVT16	undisclosed	Autoimmune					undisclosed
	AVT33	undisclosed	Oncology					undisclosed
	AVTxx	undisclosed	undisclosed					undisclosed
	AVTxx	undisclosed	undisclosed					undisclosed
	AVTxx	undisclosed	undisclosed					undisclosed

Factsheet Bonosome r-DNA

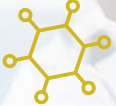
1st Africa-Developed Teriparatide Biosimilar; Differentiated Presentation to Address Patients' Needs

- **Product Name:** Bonosome r-DNA
- **Active Ingredient:** Teriparatide (PTH1-34)
- **Indication:**
 - Treatment of postmenopausal women with osteoporosis
 - Treatment of men with primary or hypogonadal osteoporosis
 - Treatment of men and women with osteoporosis associated with sustained systemic glucocorticoid therapy
- **Usage:** Daily subcutaneous injection of 20 mcg
- **Presentation:** Single-dose prefilled syringes (20 mcg/80 mL) vs multi-dose prefilled pen for originator (Forteo[®]/Forsteo[®])
- **Storage:** Refrigerate at 2-8°C (36-46°F)
- **Expected Market Authorisation Date in Egypt:** Q1 2023
- **Clinical Trial:** Phase 1 trial performed in Germany; Successful demonstration of pk and pd equivalence vs Forsteo[®], together with no significant adverse events; Full details available in related press release^[1]
- **Biosimilarity:** Established biosimilarity of Bonosome rDNA vs reference product Forsteo[®] on CMC, preclinical as well as clinical level e.g., structural properties, degradation, oxidization, deamidation, purity, and in vitro functionality as well as animal studies on single-dose PK, repeated dose toxicity and immunogenicity. Clinical biosimilarity was established as described above.



Innovation Made Affordable to Transform Healthcare

Uniquely Positioned to Serve Africa with Quality Biologic Therapies at Affordable Cost



Cell Line



Process



Drug Substance



Drug Product



ProBioGen
Intelligent Biopharmaceutical Solutions



MINAPHARM
PHARMACEUTICALS



Innovation Made Affordable: e.g. Reiferon Retard (Egypt)

Contributing to the Eradication of HCV by Boosting Patients' Access



- INN: Pegylated recombinant interferon alfa-2a
- Treatment of Chronic Hepatitis C
- Launched 2006 with **6-fold price reduction** vs originator, followed by price reductions from originator

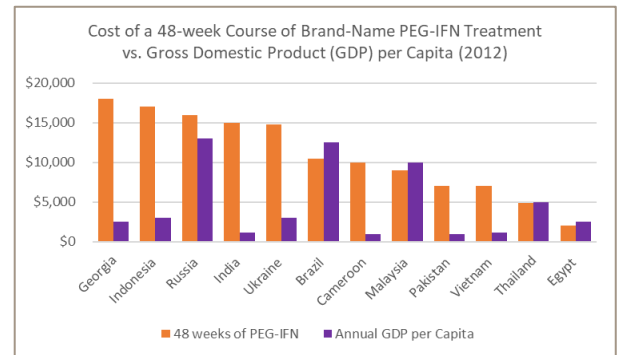
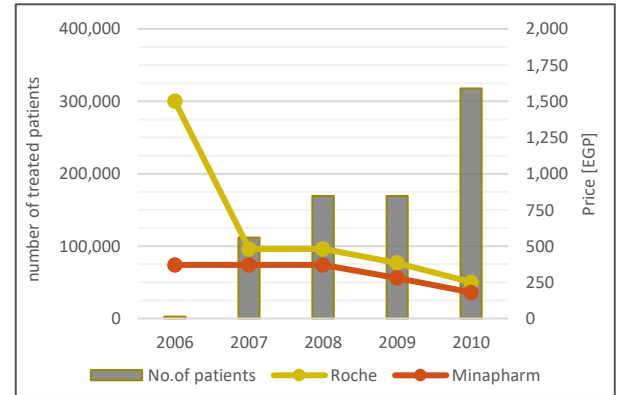
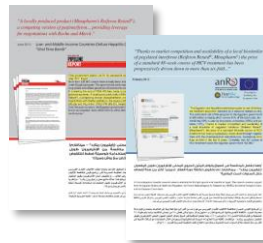
• Higher affordability of treatment led to **115-fold increase of patients treated**

• Egypt as forerunner in price adaption in middle- and low-income countries

→ **Market expansion:** more patients with access to interferon

→ **Market leadership:** 90% (62%) of reimbursed (private) market share covered by Minapharm in 2010

→ **Acknowledgments** from specialized press and authorities



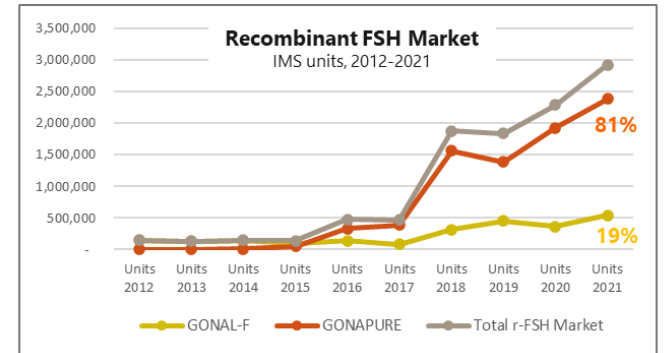
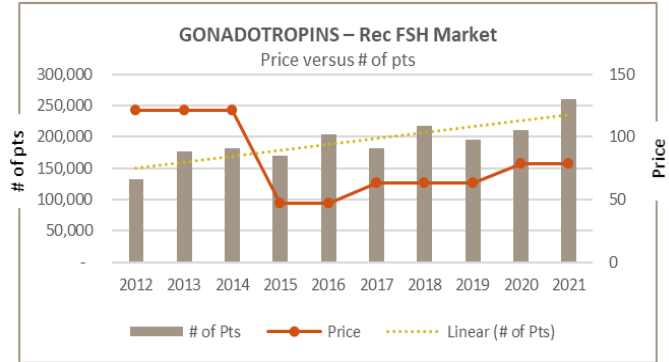
Innovation Made Affordable: e.g. Gonapure (Egypt)

Capturing the Market by Driving Down Cost



- INN: recombinant human FSH (follitropin alpha)
- Fertility treatment
- Launched 2014 with **35% price reduction** compared to originator, followed by a price reduction of originator

- Higher affordability of treatment led to **50% increase of patients treated**
- **Market leadership:** 81% market share covered by Minapharm in 2021



New Cutting Edge Biomanufacturing Facility

Minapharm's 2nd Egypt-Based Biofacility to Supply Africa & the Middle East

- 6 floors, **15,000m²** total floor space
- 1 floor fully equipped with automated **single use bioreactors** w/ total capacity of 11kL
- **Fully integrated**, from drug substance to fill & finish, quality control, storage of starting materials and intermediates
- **GMP*** compliant
- Large capacity to accommodate demand in Africa

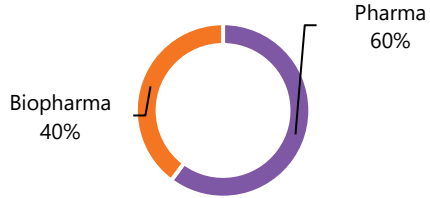


* Certification via MHRA or LaGeSo ongoing

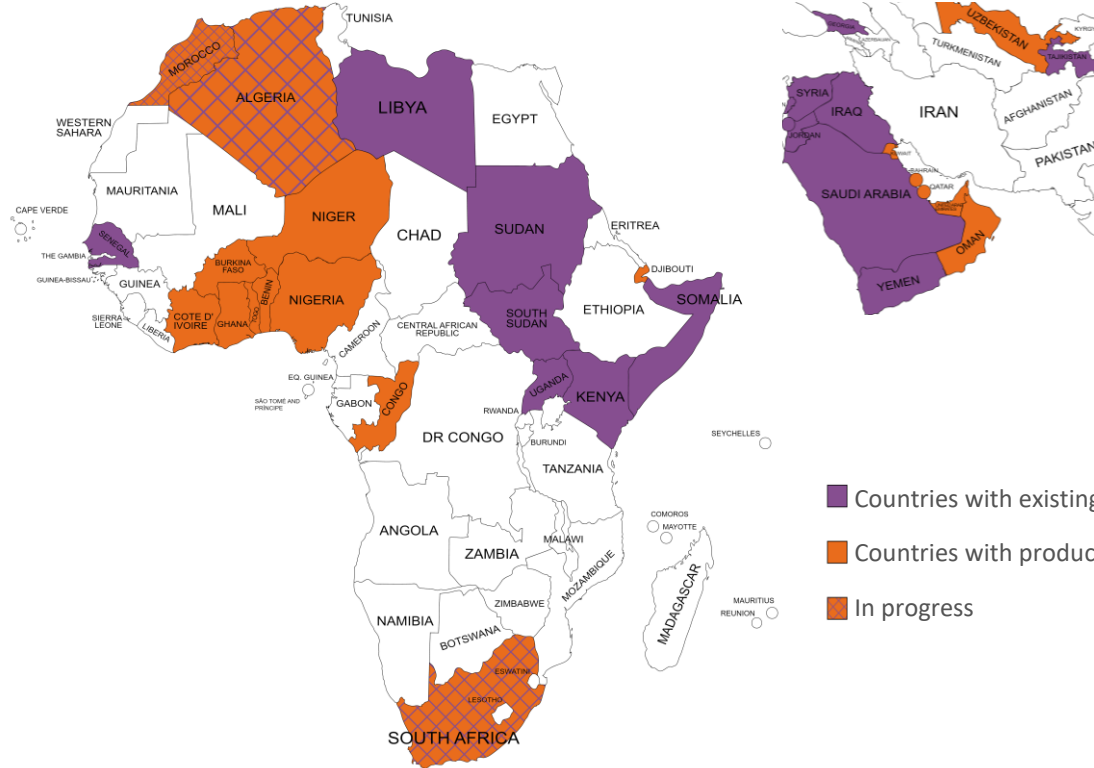
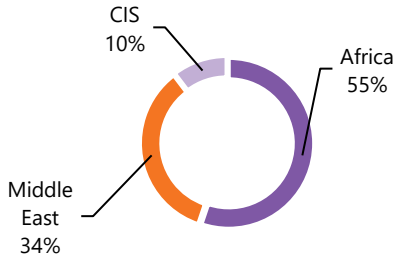
Commercial Ready Now

Leveraging Minapharm's Established Presence across Africa and the Middle East

2021 Sales



2021 Sales





MiGenTra
Healthcare Transforming Medicines

**Providing quality & affordable
biological medicines to more patients
across Africa & the Middle-East**