



**Innovation in
Healthcare**
from Research to Market
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Brussels Flagey

Co-organized by DG Research, DG Enterprise and Industry and DG Health and Consumers

GlycArt Biotechnology AG

From Inception to trade sale – and what happened after...

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From the Idea to Spin-off from the Swiss Federal Institute of Technology

1996

- At the midst his PhD thesis Pablo Umaña generates hypothesis/idea (lab of late Professor James E. Bailey)
- Idea is the starting basis of PhD thesis of Joël Jean-Mairet under supervision of Pablo Umaña
- Strong know-how in metabolic engineering, recombinant protein expression in mamalian cells

1998

- Positive first in vitro results with an anti-CE7 antibody for neuroblastoma
- US provisional patent application submitted April 1998.

1999

- Publication in Nature Biotechnology February 1999
- PCT patent application submitted
- Further validation of technology with recombinant chimeric anti-CD20 Mab

2000

- Start Business plan competition (ETH and McKinsey & Co)
- Assignment of coach within BP competition: Dr. Georges Haas (retired former global head of preclinical research at Ciba Geigy)
- June ranked among the top 10 business plans nationwide
- September founding of GLYCART Biotechnology

2001

- Start of operations of GLYCART Biotechnology (3 people) with CHF 3 mio start capital

Company evolution – Snap shot

2001

- Operational start (Spin-off; Swiss Federal Institute of Technology, Zurich)
- Seed financing round: CHF 3 million

2002

- First research collaboration with a biotech company developing MAb
- Bridge financing round: CHF 2 million

2003

- Closed CHF 18 million series A round (GLSV, Gilde, Novartis, DVC, ABN AMRO, Quester, BioMedinvest)
- Initiated collaboration to validate GlycoMAb in the clinic
- First patent issued

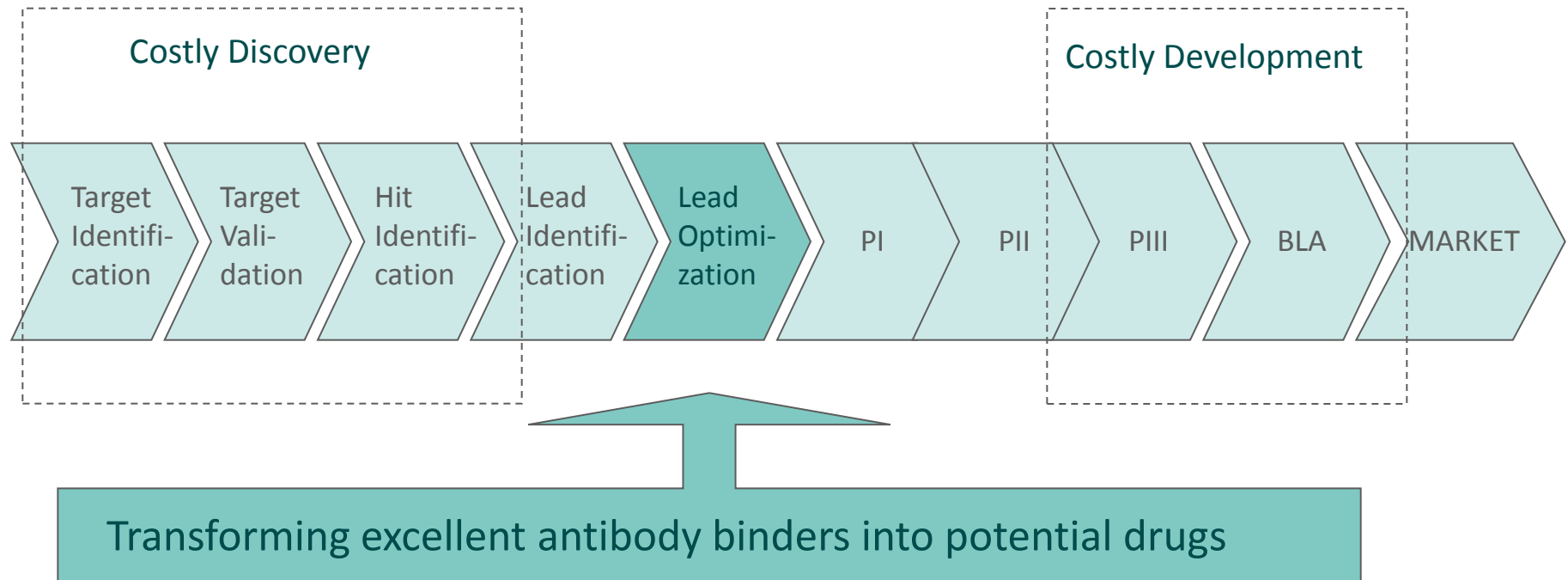
2004

- Started three preclinical research programs
- First partnership with Roche Pharma
- Production of clinical grade material for pilot investigator led-trial comparing marketed antibody against the GlycoMAb-based next-generation molecule

2005

- Initiated clinical trial: first patient receives next-generation molecule
- Completion of the investigator led study: technology proof of concept in man
- Roche Group acquired GLYCART for total up-front consideration of CHF 234 million (July 2005)
- 25 FTEs

Technology is optimally placed in the value chain



Corporate strategy

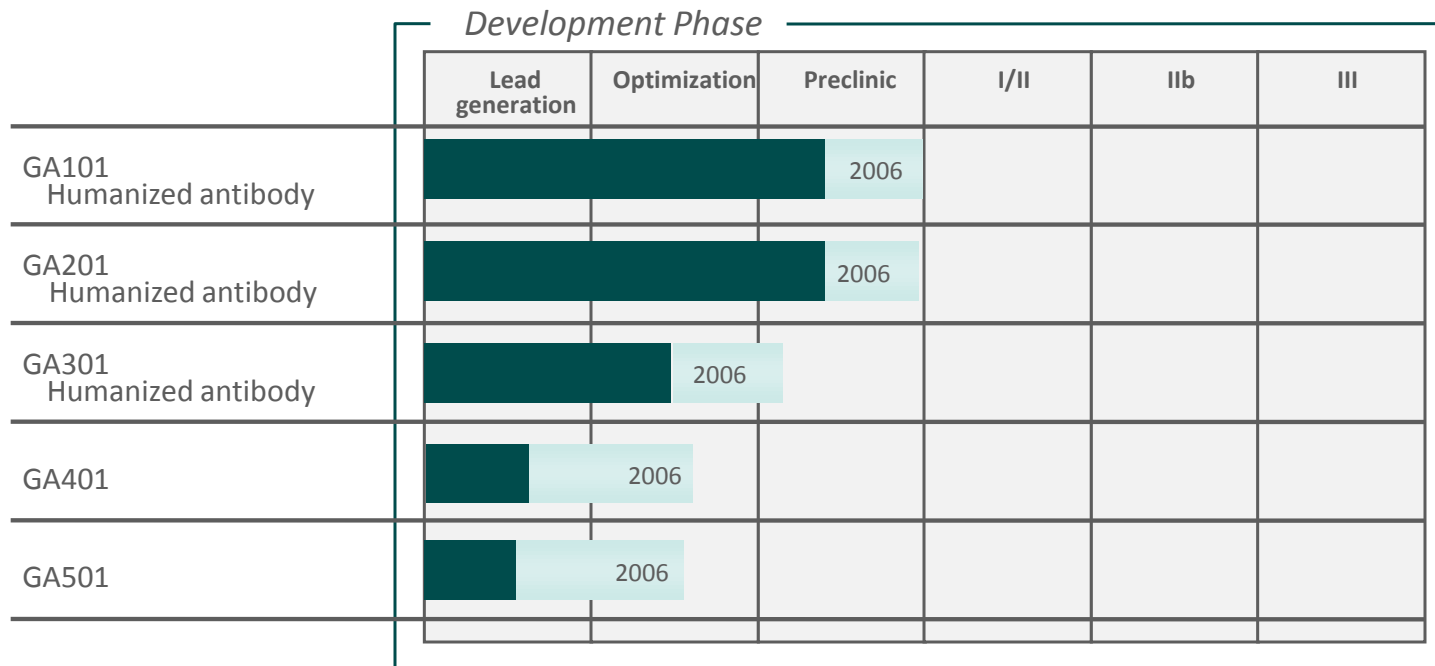
*Integrated
antibody
development
company from
target to early
clinical trials*

- Focus on **clinically validated targets**
- Start with **best possible and clearly differentiated molecule** from day one
- Non-core tasks outsourced
- Technology validation by selective partnering & PoC
- Carefully limit the availability of the technology keeping all in process IP and key materials in-house

Early stage product pipeline (2005)

A pipeline targeting clinically validated antigens

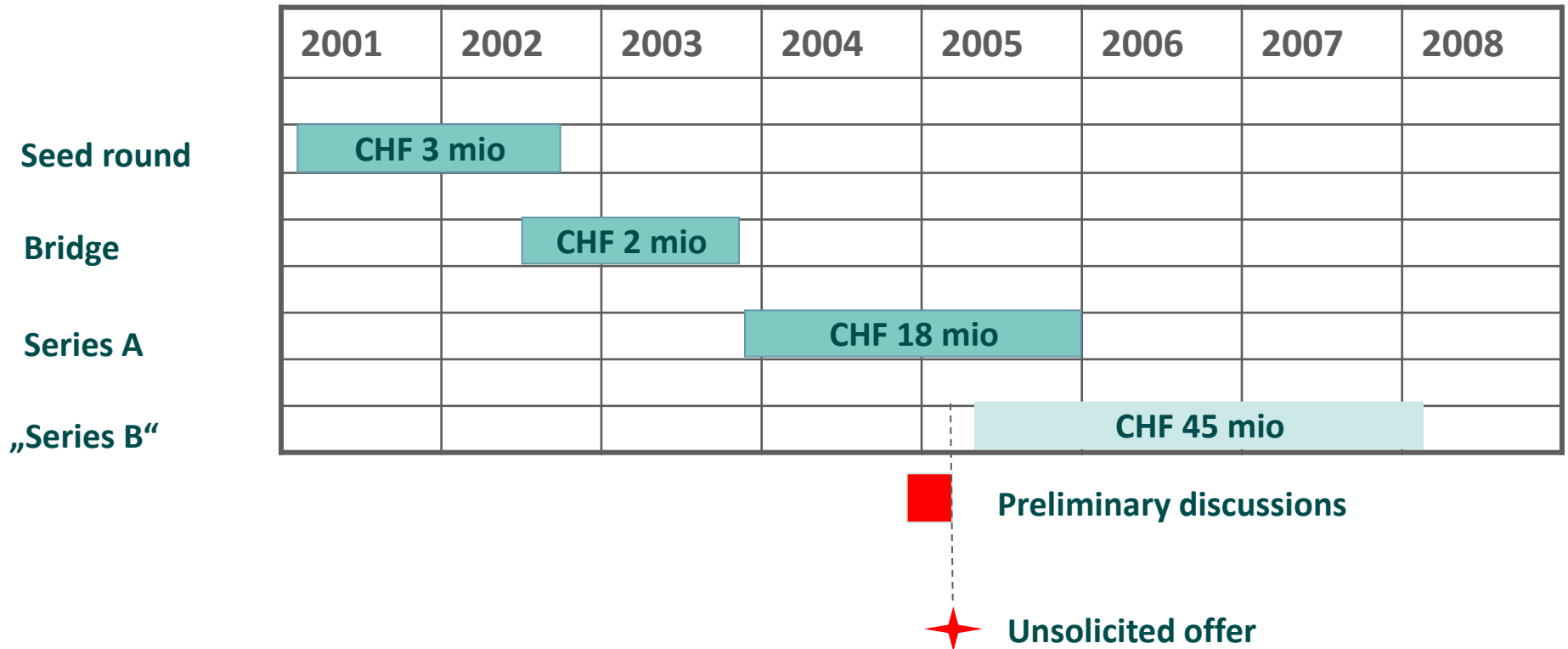
Two proprietary antibodies to enter the clinic in early 2007



Value proposition for prospective VCs or potential acquirers

- Unique technology to enhance potency of MAbs
- Proprietary pipeline with two lead compounds
- Potential of reducing clinical trial attrition rate by starting with best possible MAbs
- Potential impact in life-cycle management
- Credible Management and Board with track record of creating value

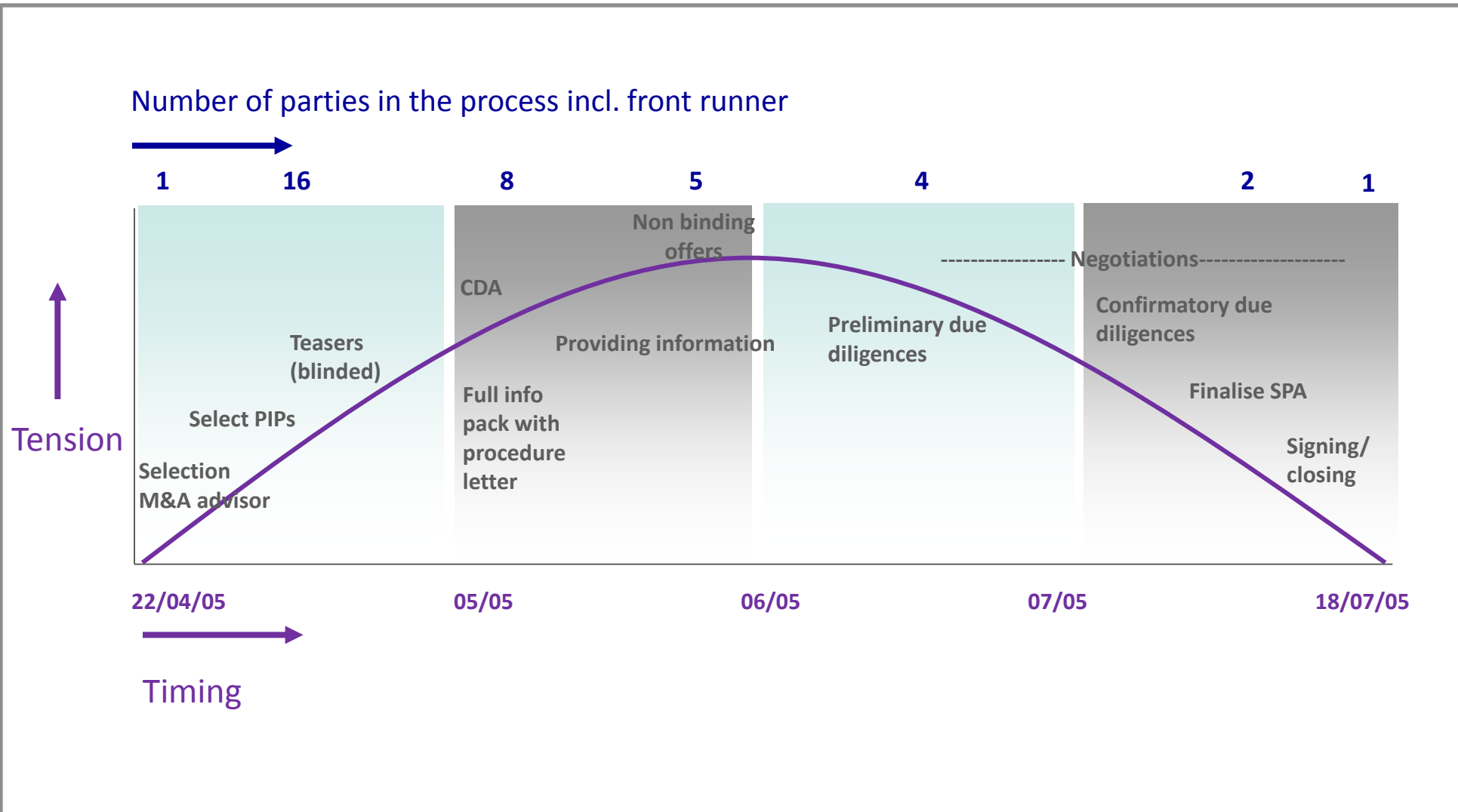
Original financing plan



Main objectives for GlycArt

Consideration	Objective
Price	<ul style="list-style-type: none"> Obtain the highest possible share price
Fit / future stage	<ul style="list-style-type: none"> Partner that understands the business and able to give the additional scale
Timing	<ul style="list-style-type: none"> 45 days to new offers, 90 days to completion
Confidentiality	<ul style="list-style-type: none"> No leakage into public domain of intended transaction
Secure current offer	<ul style="list-style-type: none"> Maintain the interest of current party and achieve highest price with lowest earn out
Stakeholders	<ul style="list-style-type: none"> Take into account stakeholder objectives (e.g. All employees)

The full process was completed in less than three months



4.5 years later....

- As of January 1, 2010 GlycArt Biotechnology AG is named **Roche Glycart AG**
- Roche Glycart workforce has increased approx 3 fold
- GlycArt preclinical research pipeline has led to 3 clinical programs (2 in preparation for entering phase III clinical trials)
- Worst financial crisis since 1929
- Investment bank and some GlycArt venture investors do not exist anymore
- Steady MAb licensing/collaborative deal flow from 2000-2005 followed by large consolidations
- Market forecasts back in 2004 completely underestimated the market potential of Mabs (USD 33bn vs USD 16.7bn projected for 2008)

- IP issues are critical for survival and growth of the company
- Professor's Support
(established network, economic support, laboratory space)
- Negotiations with University
- "What is missing?"
- Patent application: First contact with lawyers

- Coach (Dr. Georges Haas: former Global Head of R&D Preclinical development at Ciba Geigy)
- First step in network creation
- Wording, structure, source of specialized information
- Business plan gave solid view of the short term future
- Credibility
- Raised capital for starting operations

- Cultural difference between academia and industry
- Value creation should be a major driving force
- Use of foundations and government funds
- Talk to the fiscal authorities
- Look for cost-efficient buzz
- Hire the best people

Operational

- Access to experienced and skilled personnel
- Access to suitable funding
- Access to specialized information
(patent monitoring, market analysis, industry trends, ...)

- Access to laboratory space

1-15 FTEs	25 - 400m ²	Academia
15-40 FTEs	400 - 1200m ²	Specialized Science Parks

Strategic

- Maintain innovative force
- Strategic partnerships
- Take advantage of simple corporate structure
- Solid communication

*“Caminante no hay camino,
se hace camino al andar”*

Antonio Machado