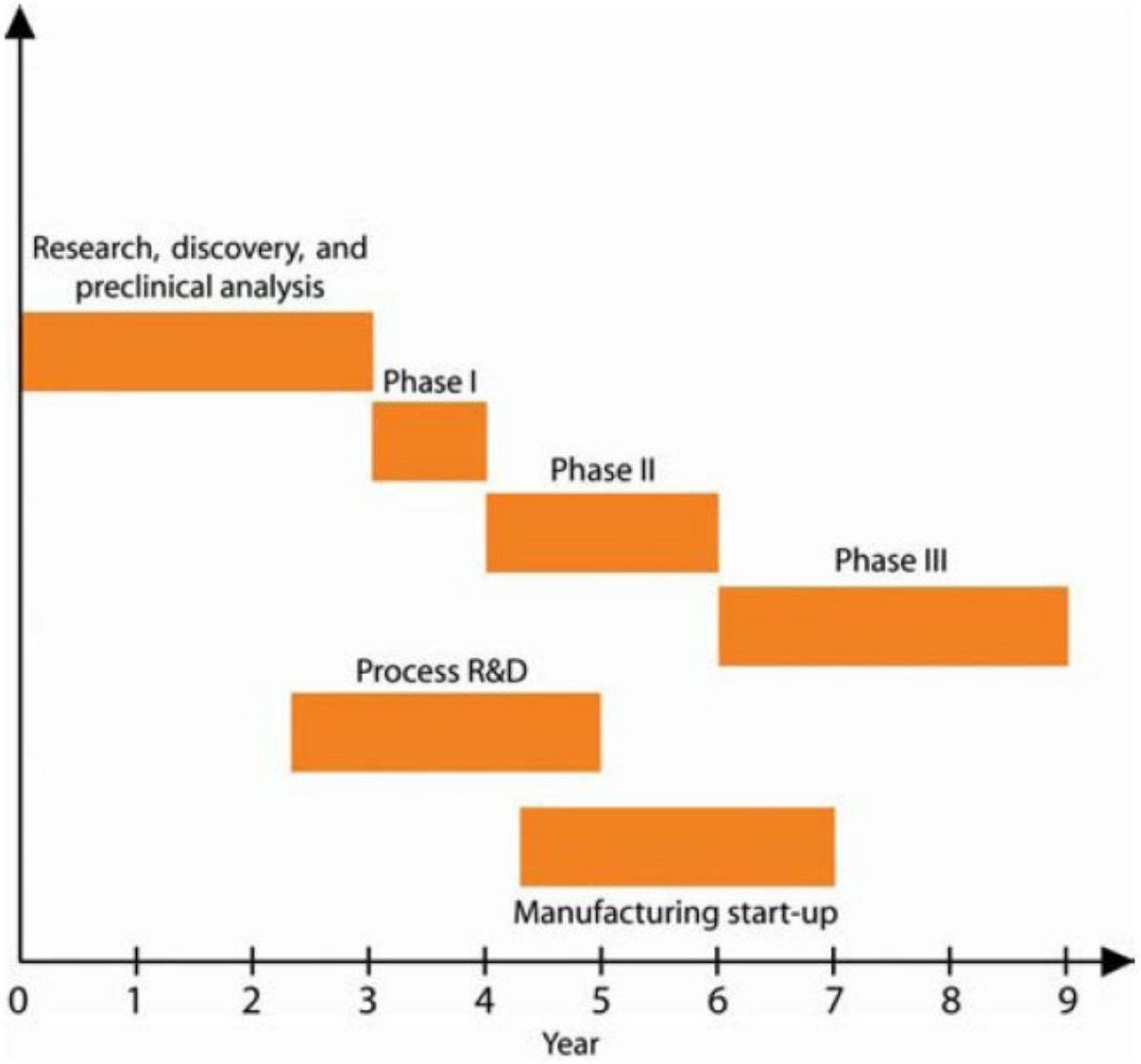
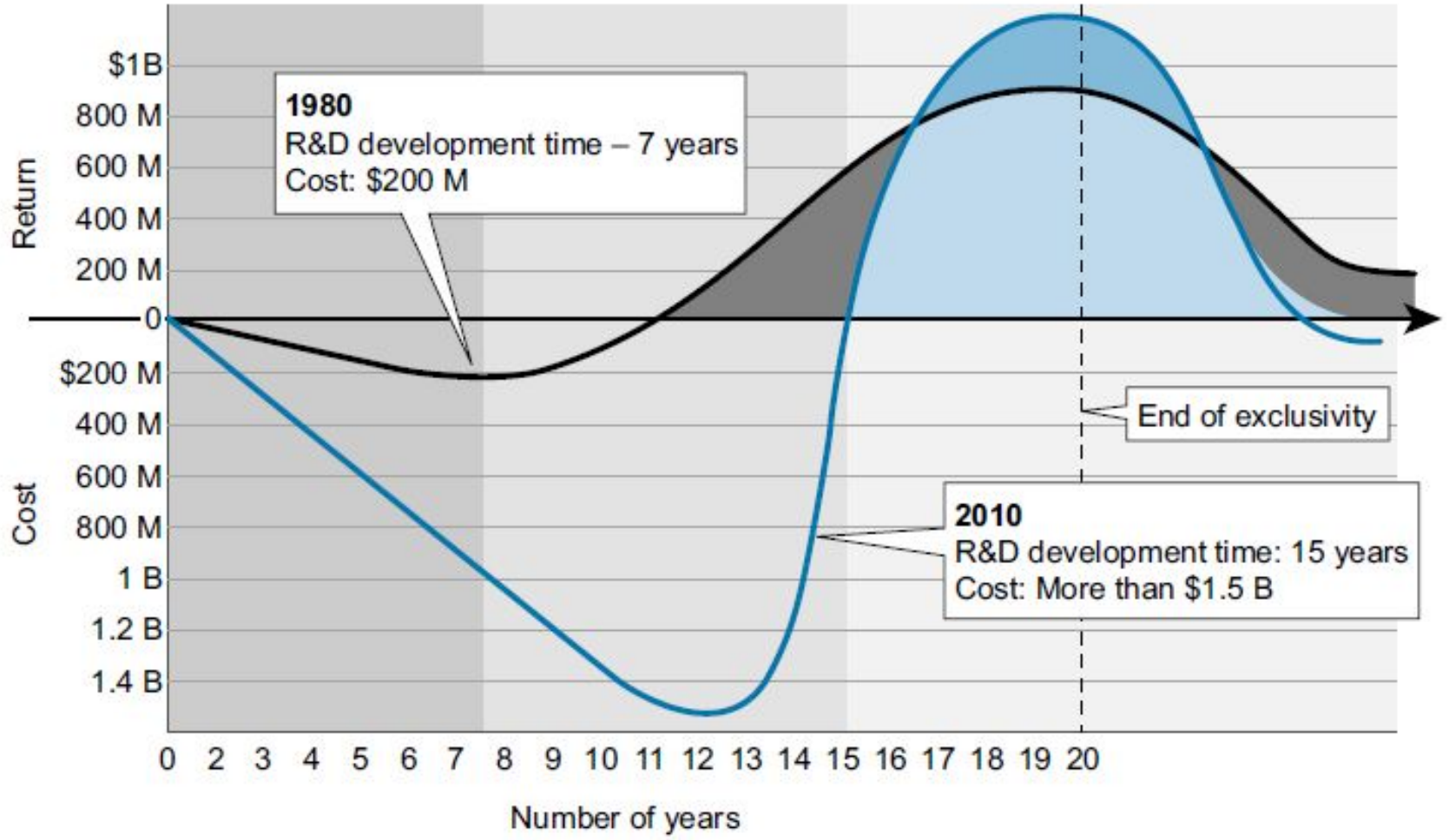
BIOTECH BUSINESS: FUNDING OPPORTUNITIES

PRODUCT DEVELOPMENT CYCLE FOR A DRUG



BIOTECHNOLOGY BUSINESS:
Time to recover R&D costs are being compressed



THE VALUE OF THE BIOTECH COMPANY'S ASSET
varies with market and geographic region

THE SAN FRANCISCO BAY AREA
a major biotechnology claster

THE BOSTON/CAMBRIDGE
a world-top biotechnology claster

BioBAT AT BROOKLING ARMY TERMINAL
a biotechnology incubator

SILICON VALLEY

MEDICON VALLEY

WHAT IS A BIOTECH CLUSTER?

Abundance of high quality, adequately funded academic research

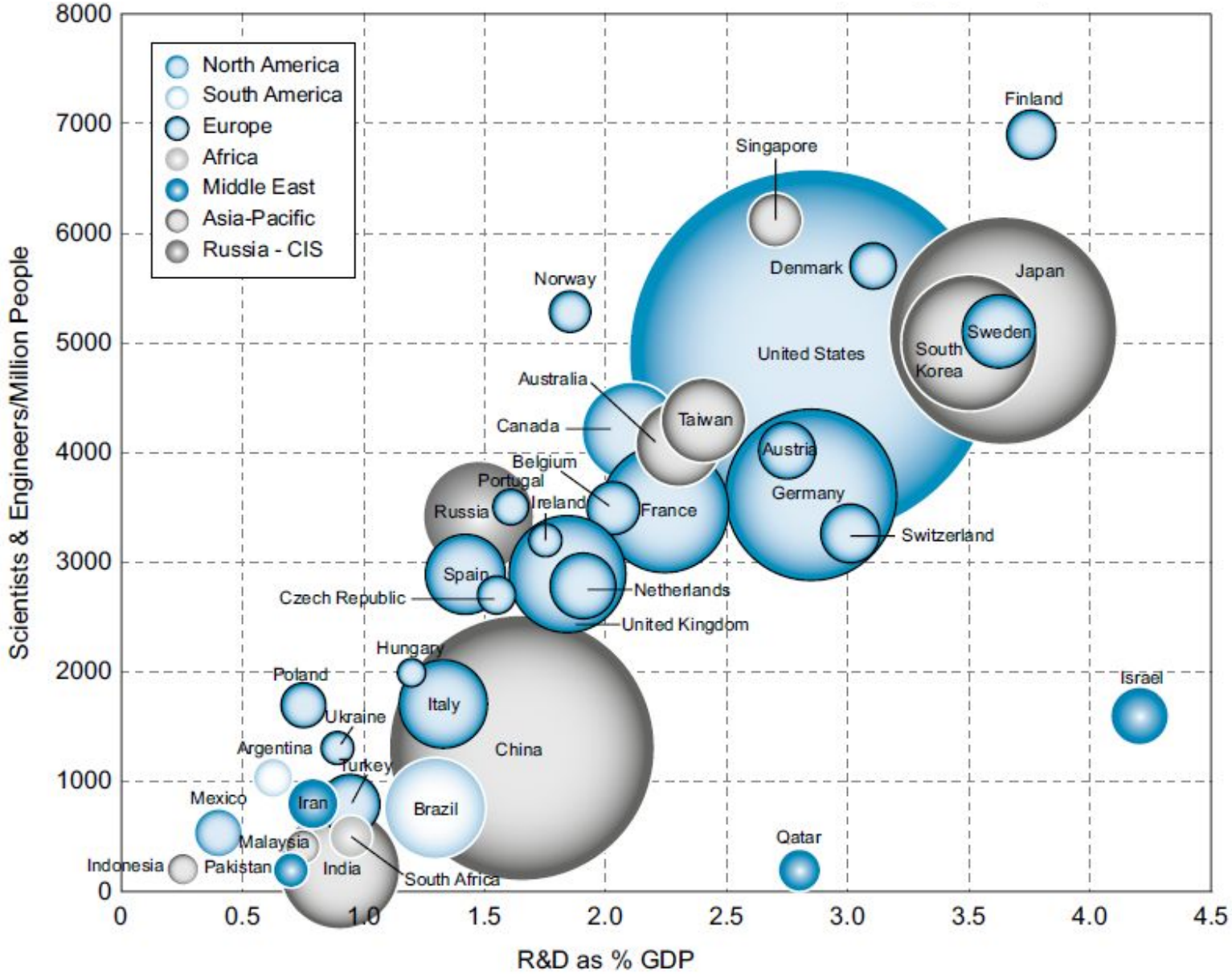
Ready resource of seasoned and experienced biotechnology entrepreneurs

Ready access to sources of at-risk, early and development-stage capital willing to fund start-up concepts

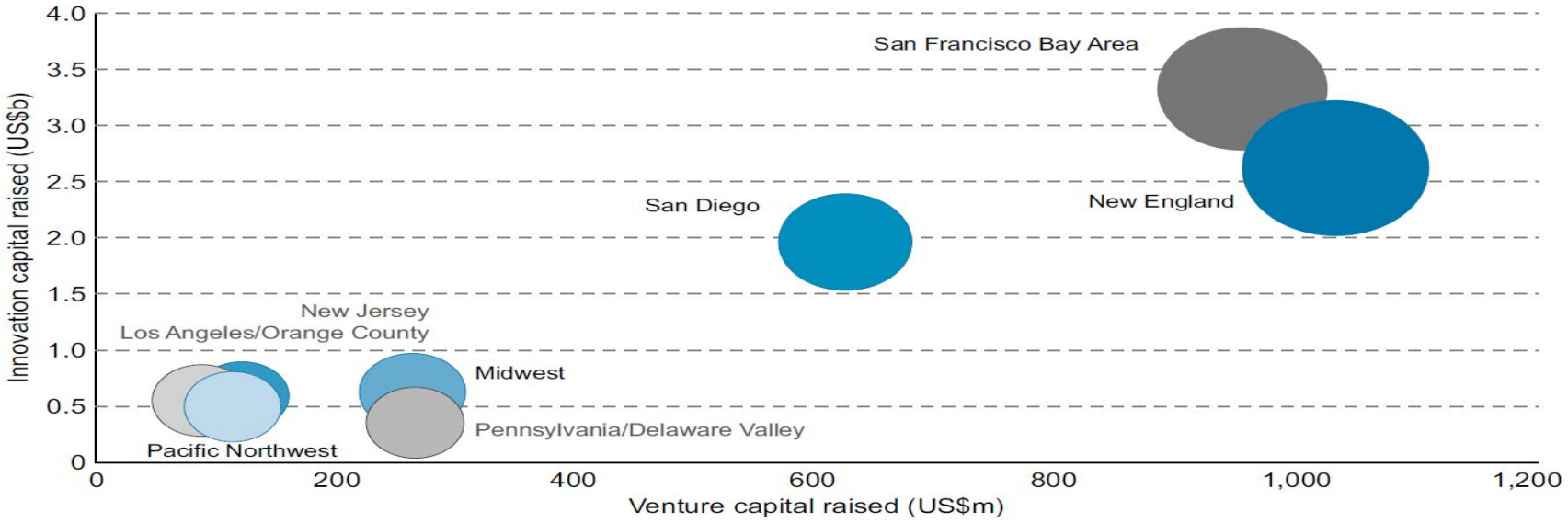
Adequate supply of technically skilled workforce experienced in the biotechnology industry

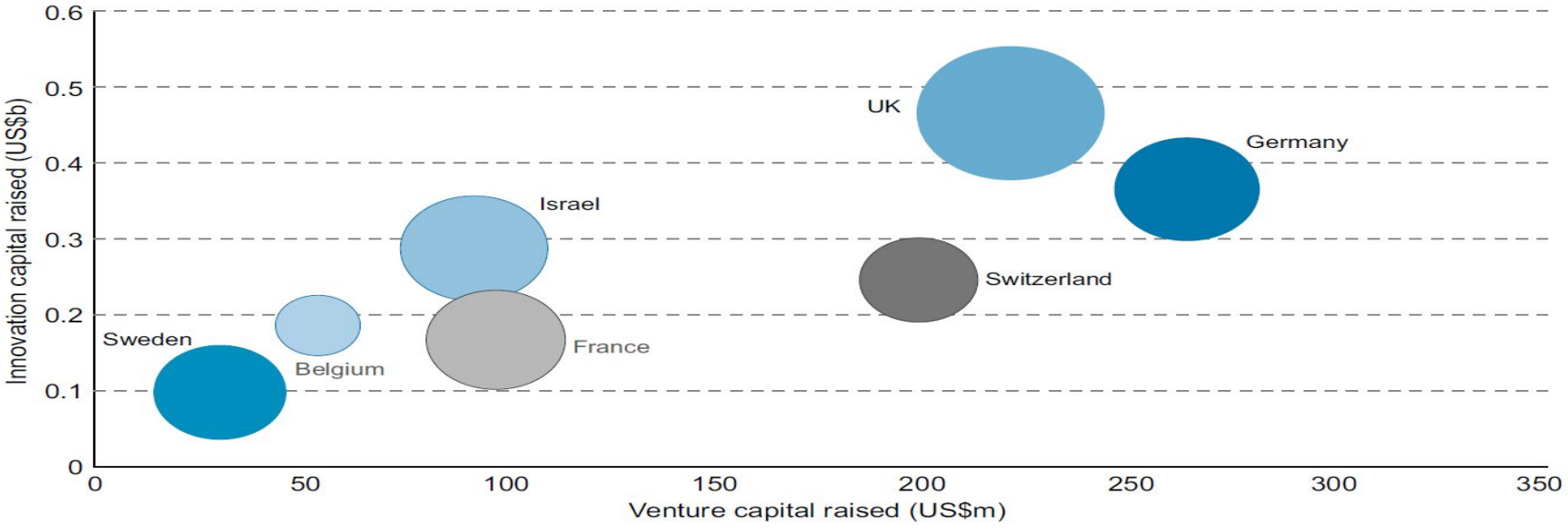
Availability of dedicated wet-laboratory and specialized facilities at affordable rates

WORLD'S 2012 R&D SPENDING

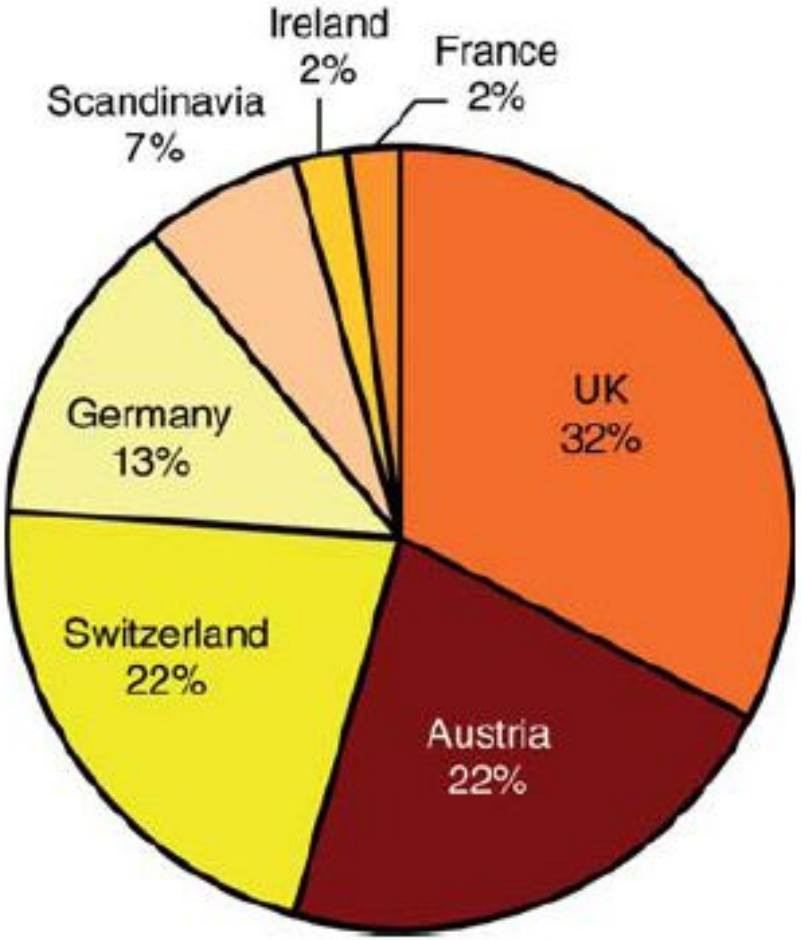


CAPITAL RAISED IN 2012
USA vs Europe





BEST STARTUP FUNDING COUNTRIES IN EUROPE
Gruber 2009



STARTUP FUNDING SOURCES

Personal capital

(Fools), Friends and Family (FFF)

Government grants and financing programs

Angel investors

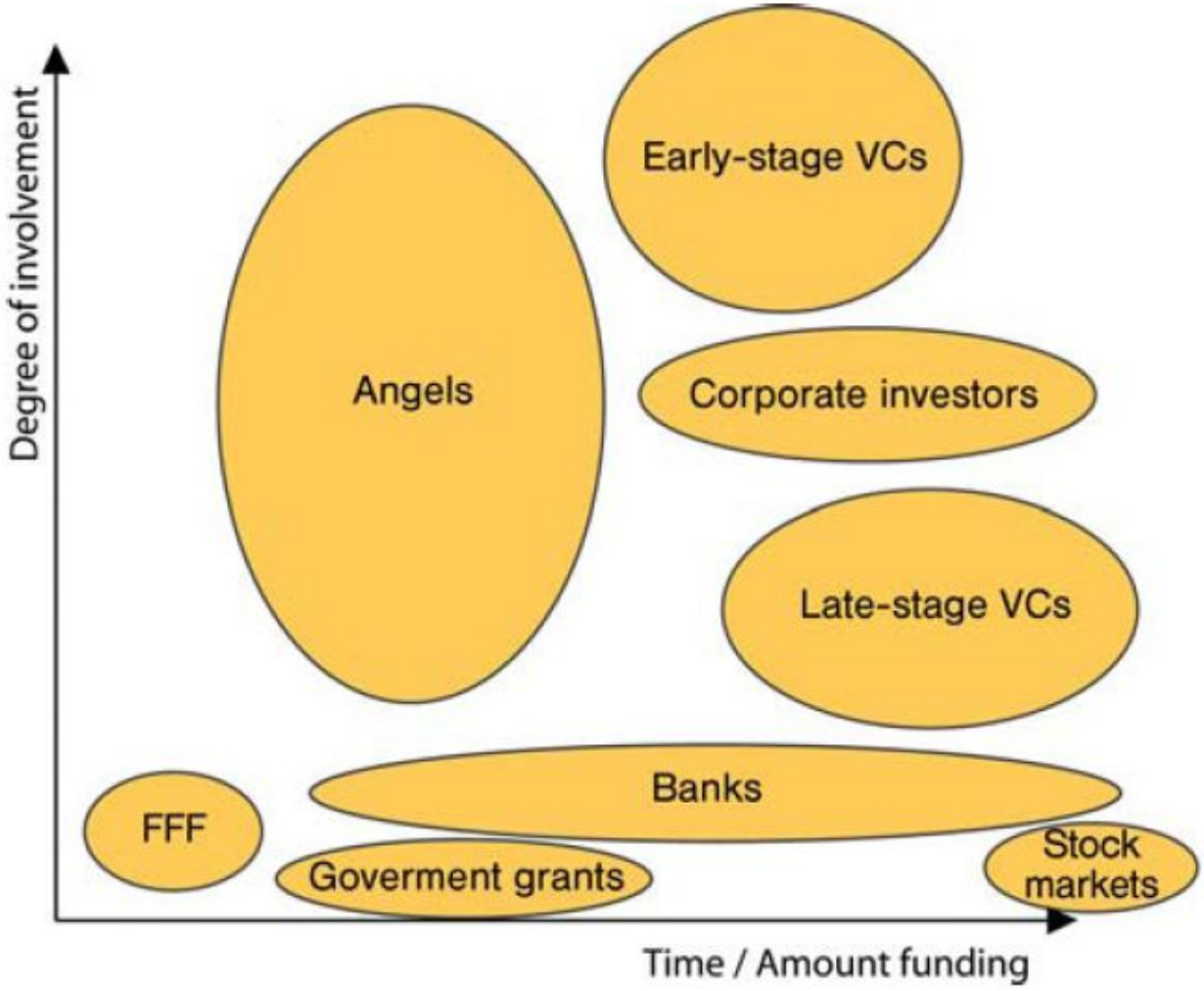
Foundation with the focus in you sectors

Venture capital industry

Institution corporate partnership

Institutional debt financing

STARTUP FUNDING SOURCES



PERSONAL CAPITAL

~5-20% of the company assets

relatively small, varies:
500 USD (Rob Swanson + Herb Boyer in Genentech)
tens of thousands USD

FFF

relatively small, varies,
up to tens of thousands USD, sometimes up to hundreds of thousands USD

GOVERNMENT GRANTS AND FINANCING PROGRAMS

relatively large (up to several millions USD), non-dilutive
hard to get

https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/index.html

GOVERNMENT GRANTS AND FINANCING PROGRAMS

https://www.helmholtz.de/transfer/technologietransfer/transferinstrumente/helmholtz_enterprise/

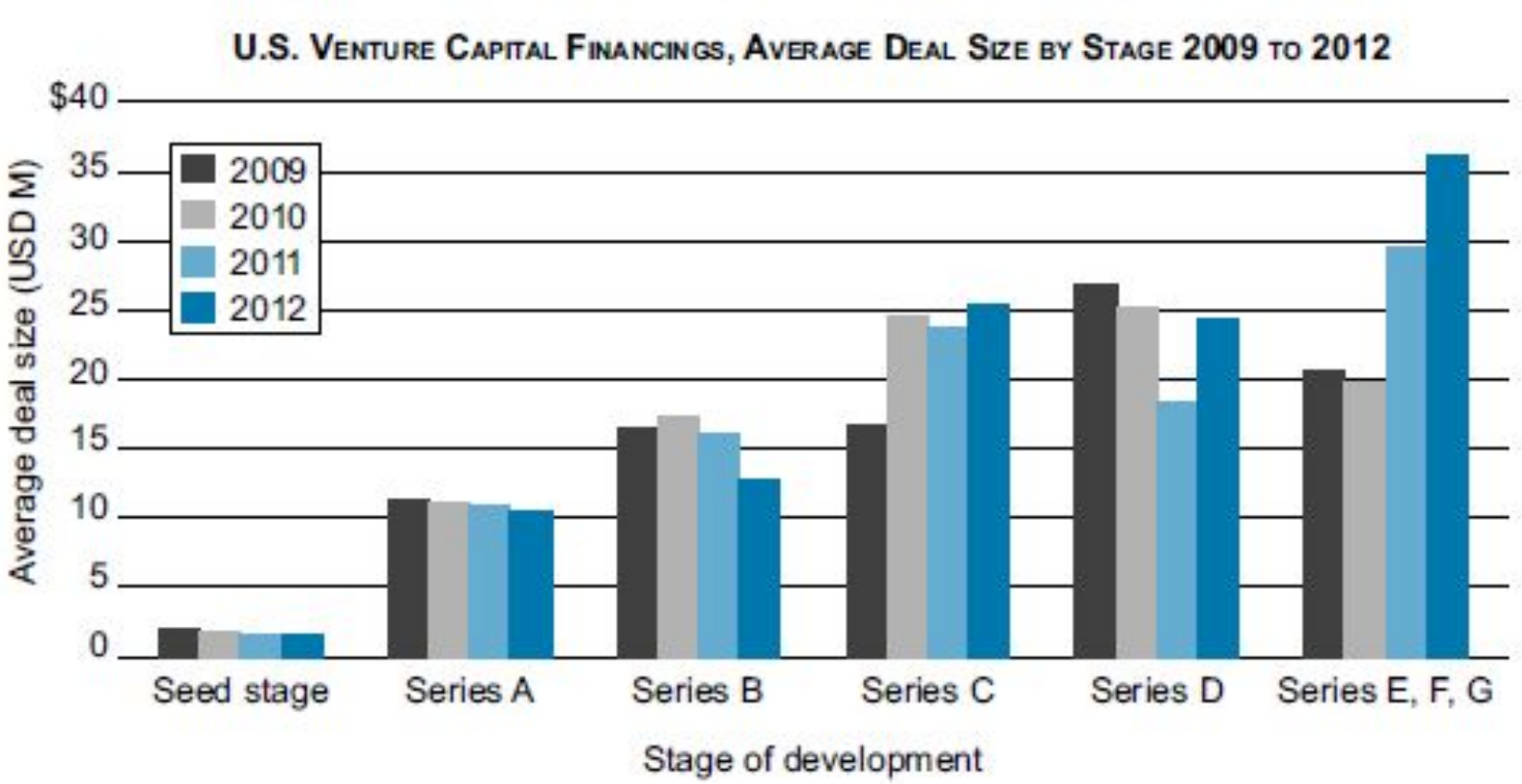
https://www.sbir.gov/

ANGEL INVESTORS

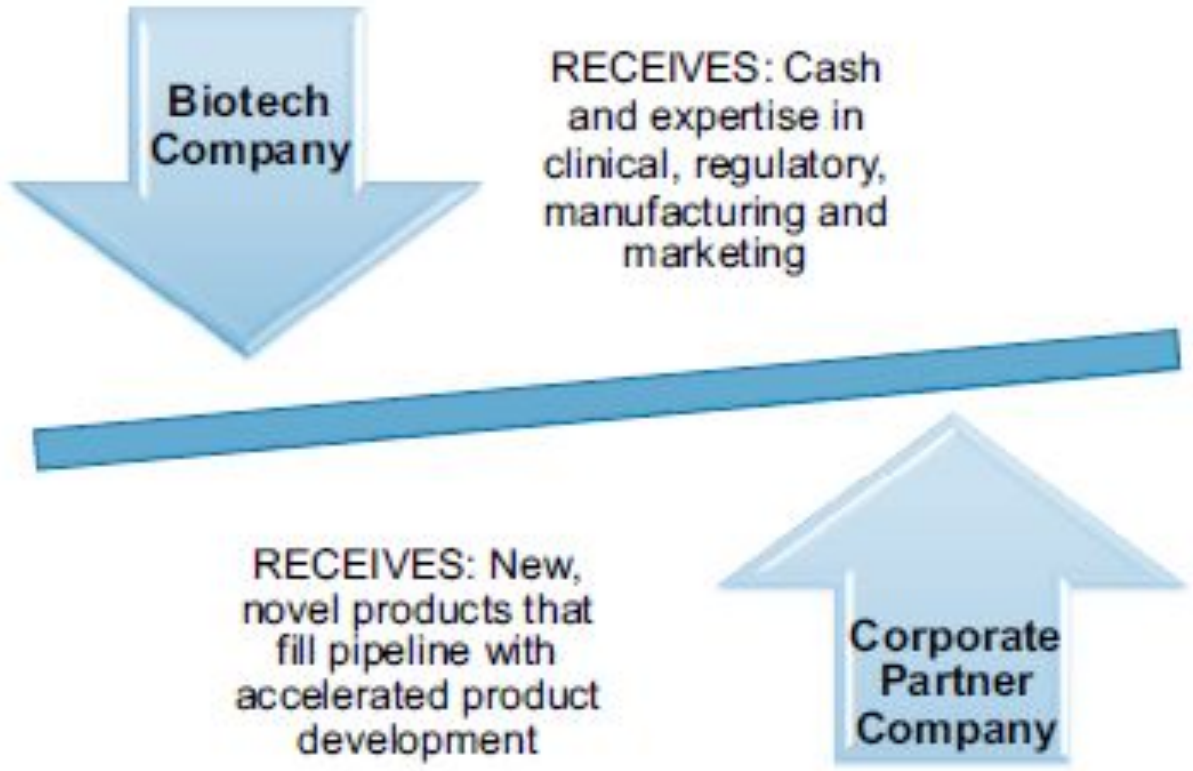
USD 20-250 K, relatively easy to get

VENTURE CAPITAL INVESMENTS

Large, highly professional management, high-diluting



CORPORATE PARTNERSHIP



IPO, ACQUISITIONS, SELLS

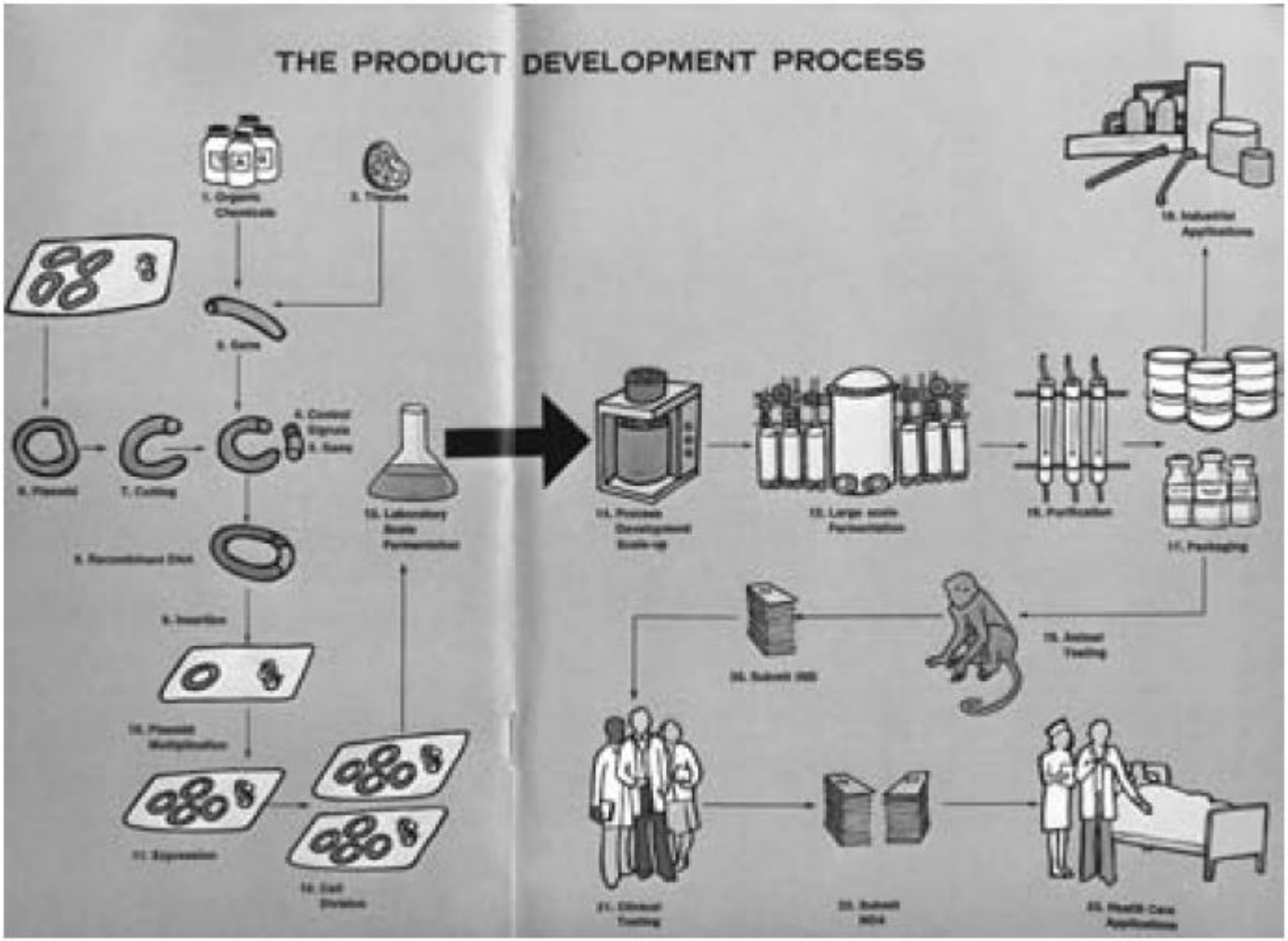


Fig. 17. Diagram of "The Product Development Process." (Initial public offering prospectus, Genentech, Inc., October 14, 1980.)

SUMMARY

Stages	Product Characterization	Valuation Ranges	Amounts Raised	Funding Sources
Start-up (pre-seed)	Concept	$1 to $3 million	$1000 to $25,000	Entrepreneur/friends and family/supported by SBIR/STTR/local grants/loans
Seed	Proof-of-concept	$2 to $5 million	$0.25 to $1 million	Entrepreneur/friends and family/angels/some VC/supported by SBIR/STTR/local grants/institutions and foundations
Early and development stage Series A/B preferred	Development	$3 to $25 million	$3 to $10 million	Angels/VCs/private equity/institutions/supported by SBIR/STTR/local grants/institutions and foundations
Later stage Series C/D preferred	Development/clinical testing	$10 to $100 million	$5 to 25 million	VCs/private equity institutions supported by SBIR/STTR/local grants/institutions
Mezzanine	Market launch	$25 to $100 million	$10 to $50 million	VCs/investment banks/private equity/institutions