



Sanofi-aventis

New R&D Organization

Value through innovation

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sanofi aventis
Because health matters



A multi-faceted approach to boost innovation

Goal

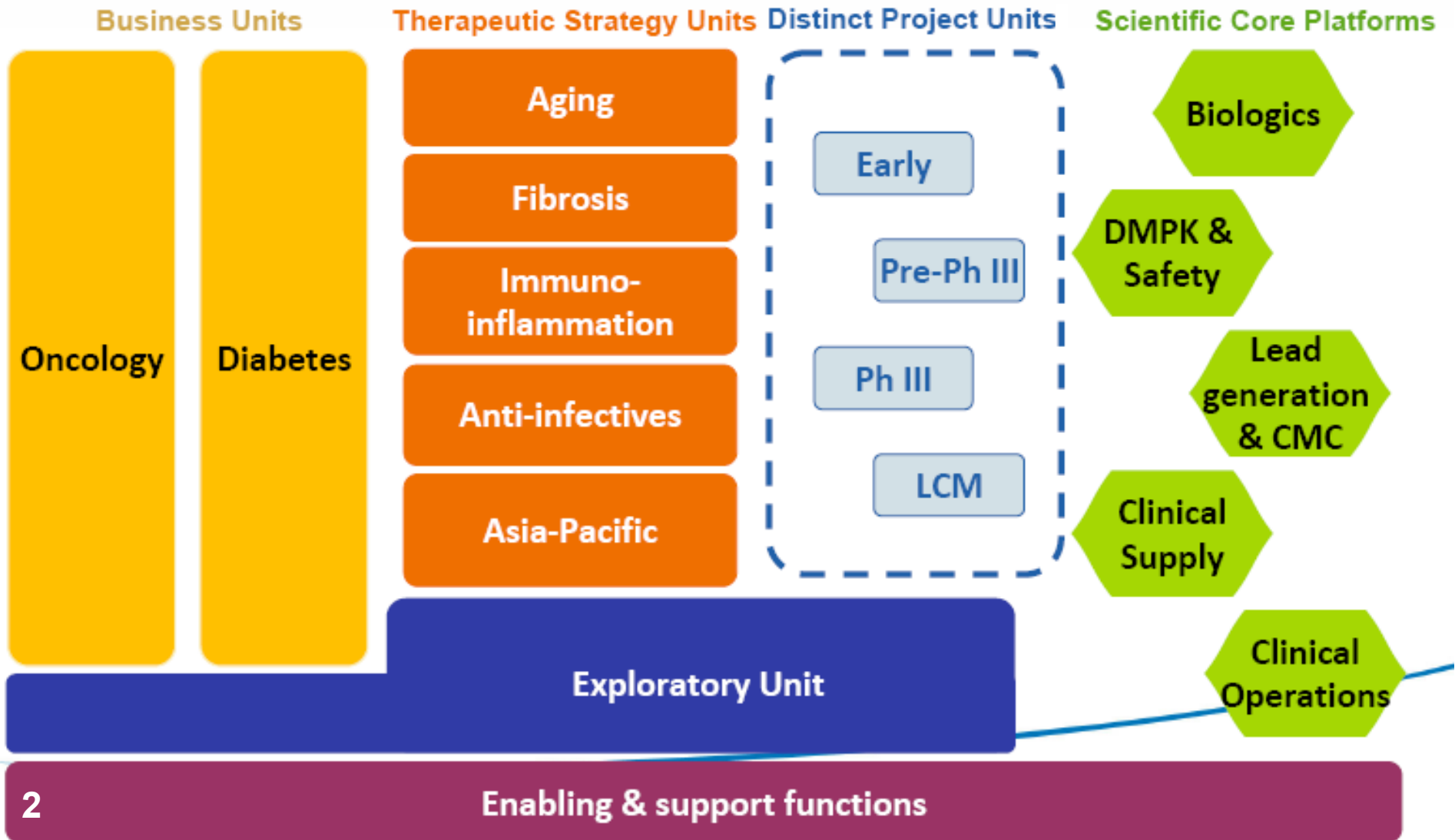
- To transform sanofi-aventis R&D into an industry-leading engine for global growth

Approach

- Be bold in the thinking
- Explore new frontiers and models for the '2015 R&D strategy'
- Optimize the current model where appropriate



Transformed R&D Structure





The new R&D is already on its way... and showing tangible achievements

Our new organization...

... has a disruptive patient-centric approach

- Entrepreneurial units are structured with project cluster focused on **patients** needs & customer insight platforms

... is open to external opportunities

- **Open** architecture: boundaries with external opportunities are porous for all types of units

... is seamlessly integrated

- Silos are broken between previous Discovery and Development, now **integrated** into new units

... fosters entrepreneurship and teams empowerment

- Governance has been **simplified** from 18 to 6 key global committees
- **Entrepreneurs** have budget autonomy and manage funds supported by business plans
- Organization design layer by layer strengthens team **empowerment** and clarified roles

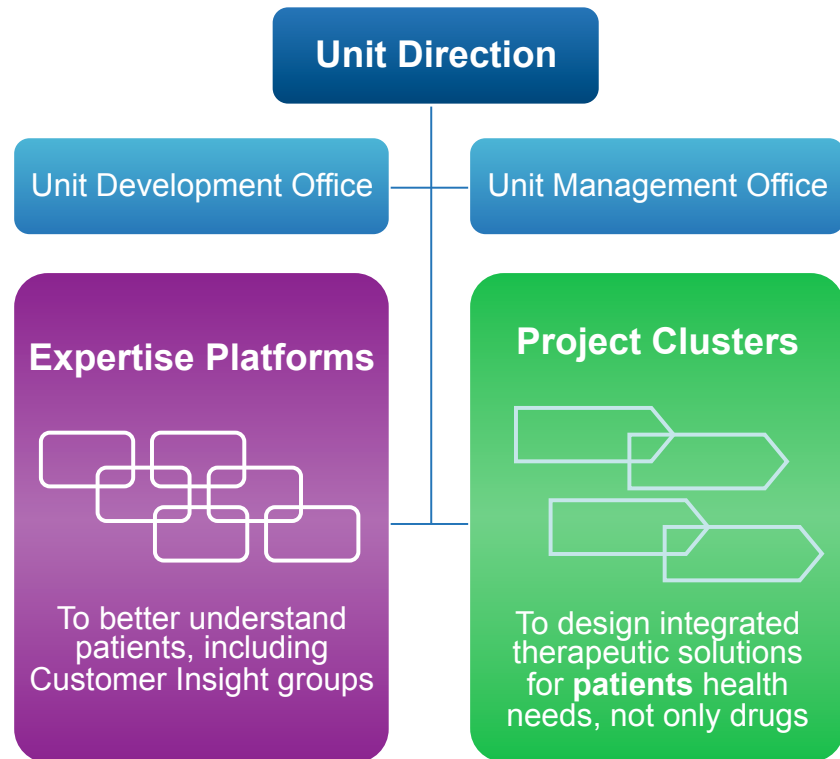


From understanding the **patient** to designing integrated therapeutic solutions

To develop a patient-centric approach...



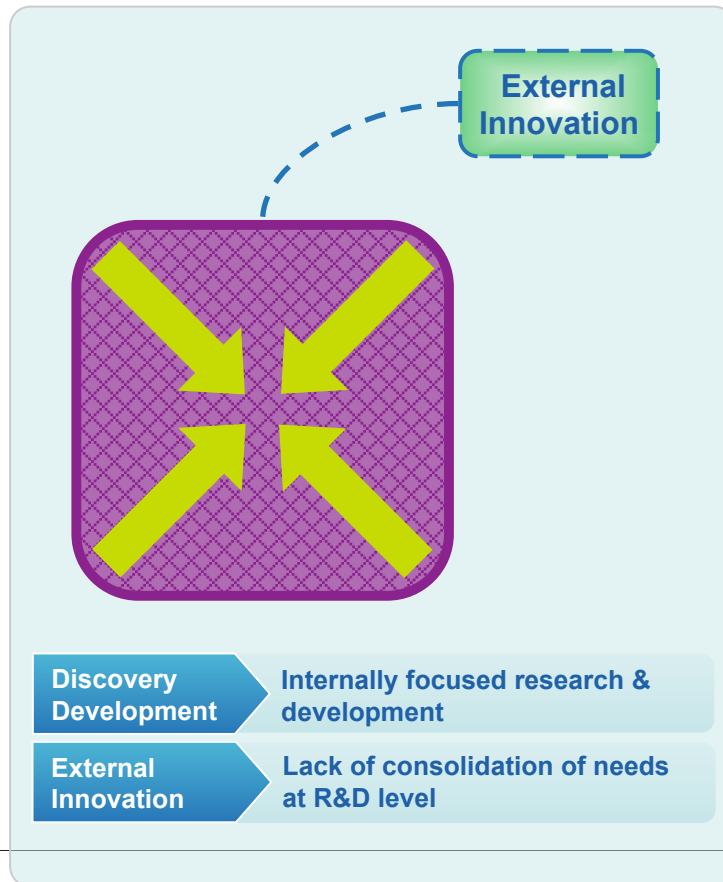
... Entrepreneurial Units have designed two-pronged organizational structure



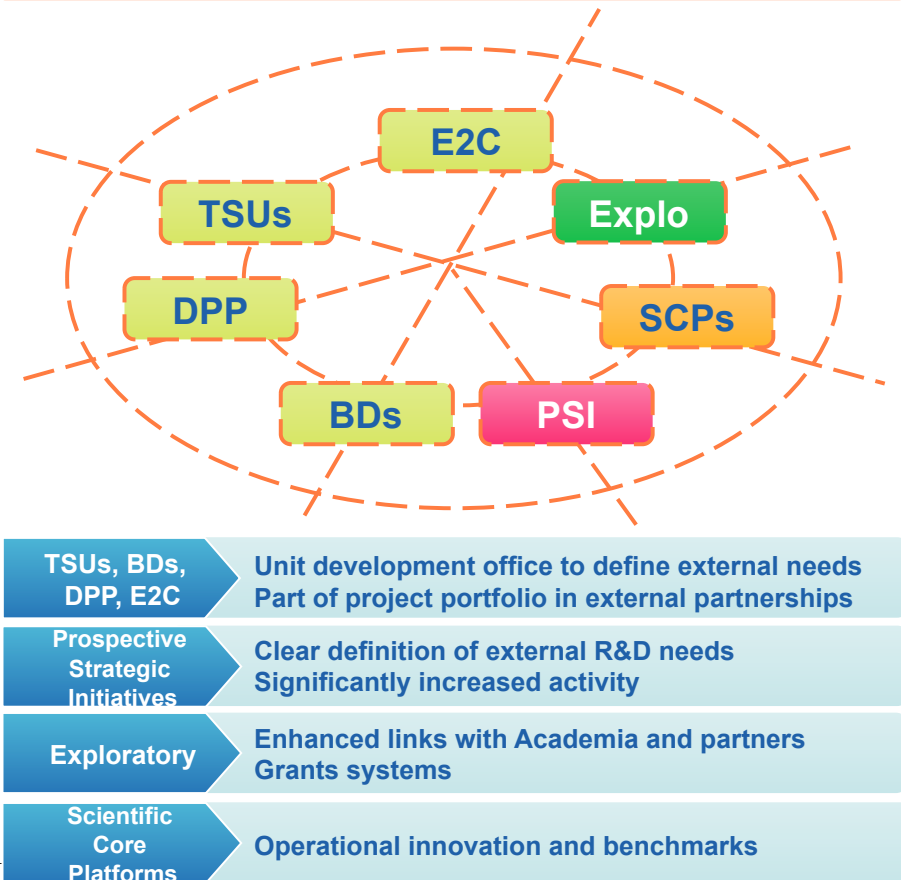


Creating the conditions to fully embrace **innovation**...

Previous model: limited interaction with external partners



New model: Embedded external opportunities across all types of units





2009 Achievements: New Approach to Increase R&D Productivity

1

Portfolio Prioritization

- ✓ 4 products approved, 15 new projects in clinical development and 30 projects terminated
- ✓ 60% of the development portfolio in Biologics & Vaccines

2

Partnerships

- ✓ 18 R&D partnerships / in-licensing deals and 2 R&D acquisitions
- ✓ 55% of the development portfolio from external R&D

3

Organization

- ✓ New R&D organization being implemented



2009 Achievements: Late-Stage Pipeline

Main Achievements

Development Phase Progress

- ◆ BSI-201 in Phase III for mTNBC, for NSCLC and Phase II for Ovarian cancer
- ◆ otamixaban in Phase III for acute coronary syndrome
- ◆ aflibercept in Phase II for 1st line CRC

New Regulatory Submissions

- ◆ Jevtana[®] (cabazitaxel) in U.S. for prostate cancer
- ◆ IMOJEV[®] in Asia-Pacific
- ◆ Plavix[®] for atrial fibrillation
- ◆ Humenza[™] in EU

New Regulatory Approvals

- ◆ Multaq[®] in the U.S., EU, Switzerland, Canada
- ◆ A(H1N1) U.S. vaccine; Panenza[™] in EU and Int'l
- ◆ Flu High Dose IM in U.S.
- ◆ Intanza[®] in EU
- ◆ Apidra[®] SoloSTAR[®] in Japan
- ◆ ClikSTAR[®] insulin pen in EU and Canada
- ◆ Sculptra[®] Aesthetic in the U.S.

mTNBC: metastatic Triple Negative Breast Cancer
NSCLC: Non-Small Cell Lung Cancer
CRC: Colorectal Cancer



Oncology: Key recommendations

OUR OBJECTIVE

Build an oncology powerhouse through development & commercialization of a portfolio of targeted therapies addressing specific patient needs with high efficacy

KEY RECOMMENDATIONS

- Shift our oncology R&D from empiric drugs treating non-selected patients to agents targeting cancer associated pathways in relevant selected patients
- Focus R&D efforts on developing drugs for specific targets/pathways involved in several cancer indications
- Leverage an integrated network of partners (academics, institutions, companies) to identify and validate new targets/pathways
- Invest in required platforms needed to develop translational medicine
 - Biomarkers, imaging, genomics, biobanks, bio-informatics, e-health
- Define an organizational model adapted to oncology
 - Build a global oncology division & define efficient interfaces with other s-a entities
 - Increase and facilitate external collaborations with academics & other companies



Diabetes R&D strategy: a complete solution

INTEGRATED APPROACH...

- Understanding the needs of all the stakeholders
 - **Patients / KOLs / Providers / Payers / Health Authorities**
- Providing an integrated solution that goes beyond glycemic control
 - **Therapeutics / Devices / Services**
- Using a functionally integrated approach
 - **R&D / IA/Devices / Sales/ Marketing / BD**

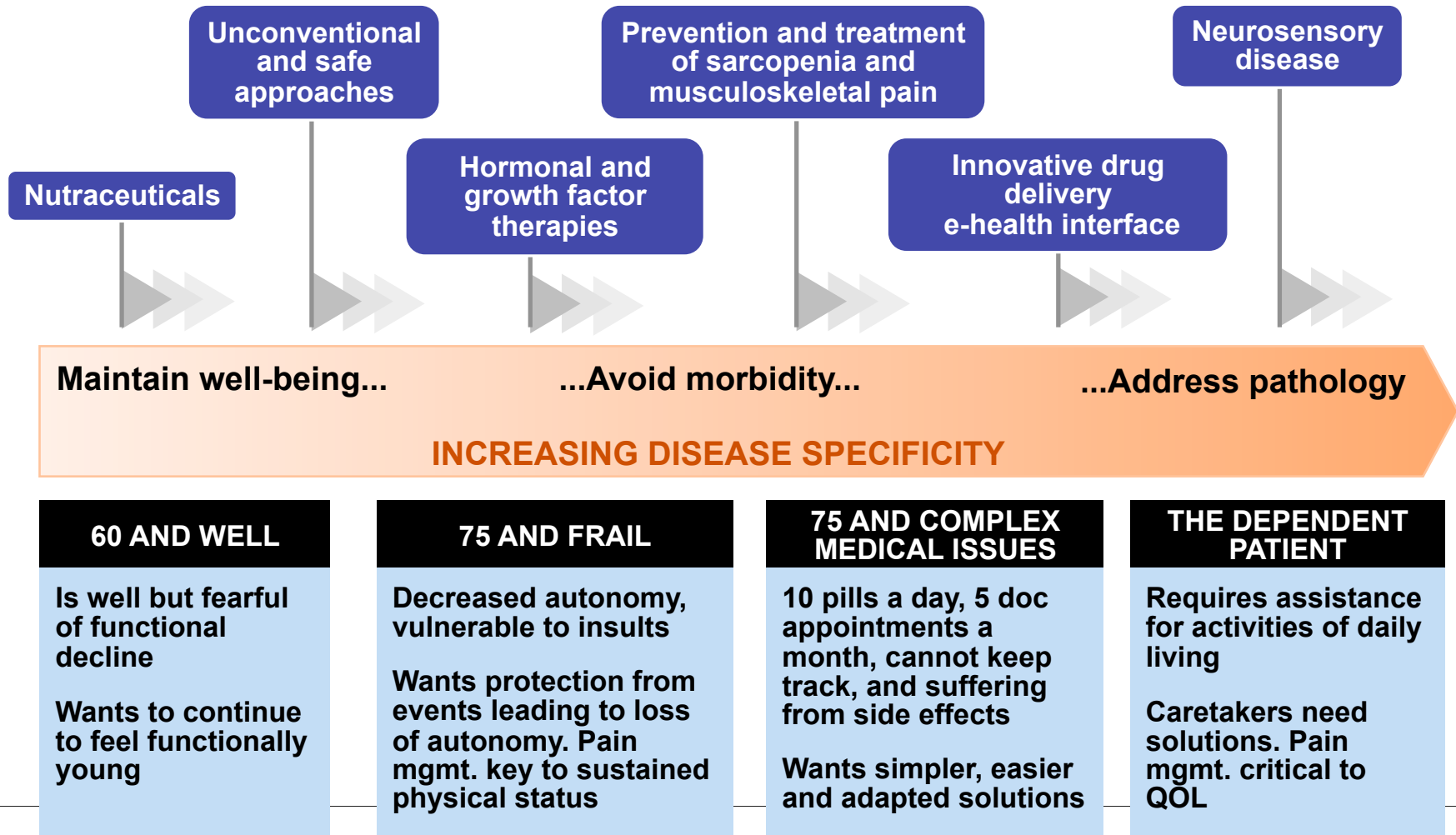
... WITH KEY R&D OFFERINGS

- Strengthen our leadership via better use of insulin supported by innovative devices, novel insulins ... and simpler oral therapies
- Go to new paradigm beyond glycemic control, with insulin resistance and fatty liver
- ... And leapfrog via greater challenges, such as β -cell medicine and diabetic complications

Directed by a global, strategic cross-functional Diabetes Division



Aging strategy: Full spectrum of offerings





Emphasis on critical platforms needed to enable the 2015 Strategy

Scope of platform

**Novel
Biologics**

- **Next-generation biological molecules (e.g., biospecific mAbs, Immunoconjugates, protein scaffolds, fusion proteins, etc.)**

**Personalized
Medicine**

- **Biomarkers and diagnostics that can be used to assess risk, predict patient response, and evaluate treatment efficacy**

**Regenerative
Medicine**

- **Cell therapies (stem cells, cell culture), tissue engineering (repair, regeneration), and induced regeneration**

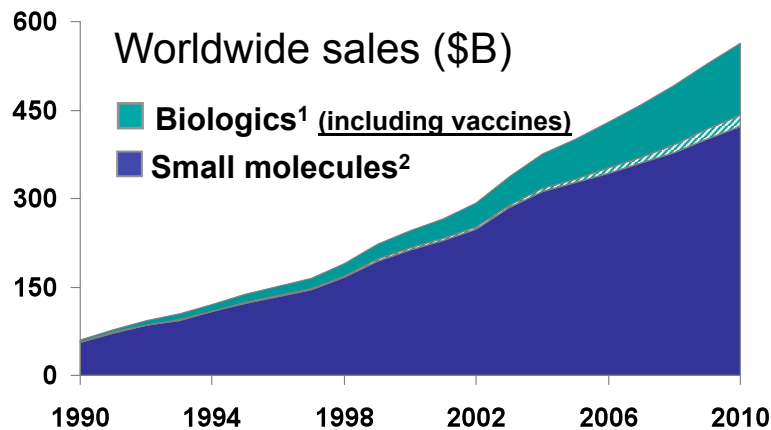
e-Health

- **Linked biobanks, genetic databases, clinical trial data management, and electronic healthcare records**



Novel biologics present attractive opportunities for sanofi-aventis

Biologics outpacing small molecules



	'06 -'10 CAGR	2006 Mkt share	2010 Mkt share
Biologics	13.4%	20%	25%
Small molecules	5.2%	80%	75%

Sanofi-aventis already has existing in-house biologics platforms...

Leading positions: Vaccines and Insulins

Positions to be strengthened:

- Monoclonal antibodies & derived Immunoconjugates
- Recombinant and fusion proteins
- Non-viral gene transfer

...and seeks to invest in new platform technologies to strengthen its position

Novel protein scaffolds (e.g. DARPins)

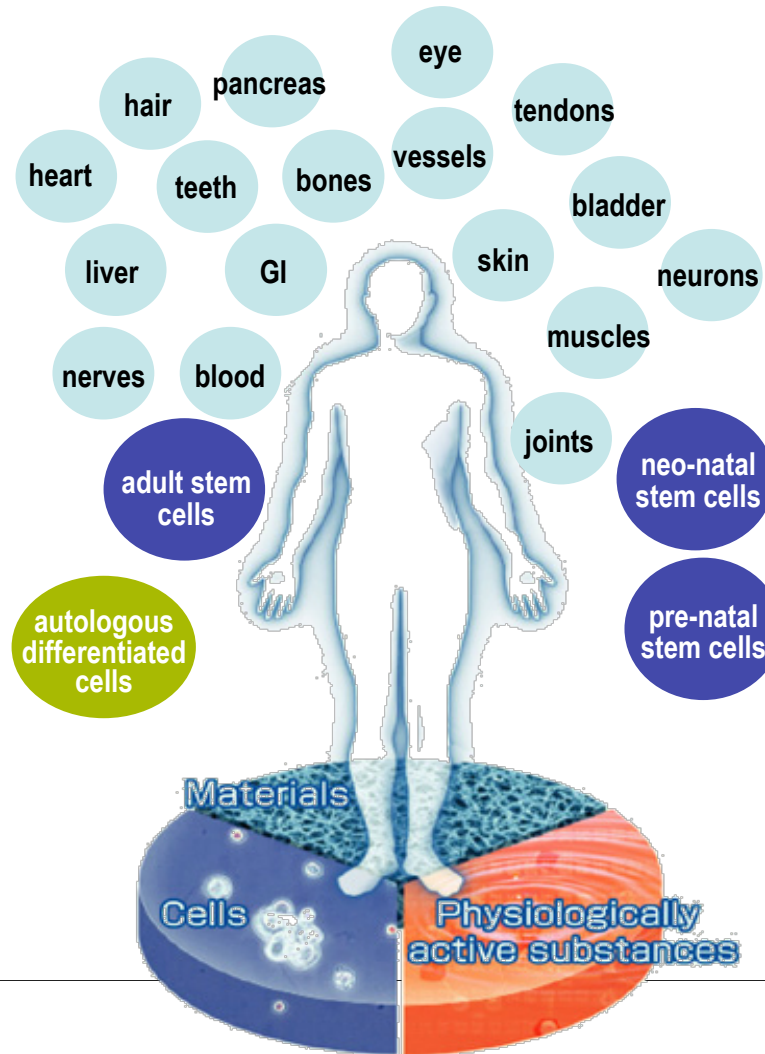
- Nucleic acid therapeutics
 - Oligonucleotides (e.g. siRNA, antisense)
- Encapsulated Cells Technology

1. Recombinant proteins, mAb, Cell therapy, Gene therapy, Transgenic products, Other biotechnology products + Vaccines 2. Small molecules and chiral chemistry
Note: Excluding Conventional in vivo diagnostics, unclassified Rx, OTC; Source: Evaluate, July 2006



Regenerative medicine uses engineered stem cells to lead to quantum leap therapeutic benefit

All tissues and functions can potentially be repaired





Regenerative medicine: Applications

Current applications

■ Skin replacement

- autologous, organ substitution technology
- application: skin substitute for the treatment of burns, ulcers and other non-healing wounds



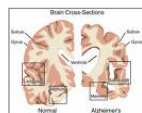
■ Bone repair

- allogeneic, organ repair technology
- application: repair of broken bones

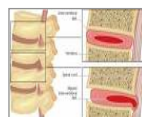


Long-term potential applications

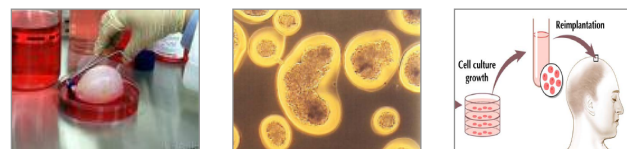
■ Parkinson's (regeneration of dopaminergic neurons)



■ Poliomyelitis (spinal cord injury repair)



Under development applications



■ Bladder reconstruction

- autologous, organ regeneration technology
- potential applications: vessel grafts, kidney, heart valves, skin, bones & cartilages, breast reconstruction, muscles

■ Pancreatic function restoration

- allogeneic, organ repair technology
- peritoneal implantation of β islet cells encapsulated in alginate-coated thin sheets
- applications: diabetes (mainly type 1)

■ Hair loss

- autologous, organ regeneration technology
- aesthetic application for willing-to-pay patients



Anticipated R&D Newsflow until December 2010

	Timing 2010
Key Milestones – Pharmaceuticals	
➔ BSI-201 - start of Phase III in lung cancer	➔ Q1
Expected EU regulatory decision on DuoPlavin®	➔ Q1
➔ Cabazitaxel in prostate cancer - Phase III data presentation	➔ Q1
Otamixaban - start of Phase III trial	➔ Q1
➔ Allegra® Rx-to-OTC switch U.S. submission	➔ Q1
➔ Cabazitaxel in prostate cancer - U.S. & EU regulatory submissions	➔ Q1/Q2
Teriflunomide with Copaxone® in MS - Phase II data presentation	➔ Q2
Anti-PCSK9 monoclonal antibody - PoC data	➔ Q2
Nerispiridine in MS - Phase II data presentation	➔ Q3
Lixisenatide in Type 2 diabetes - Phase III monotherapy data presentation	➔ Q3
Aflibercept in 2nd line CRC - VELOUR interim analysis	➔ Q4
AVE5026 in orthopedic surgery - Phase III data presentation	➔ Q4
Teriflunomide in MS – TEMSO study data presentation	➔ Q4
Temusi® (NV1FGF) in CLI - Phase III data presentation	➔ Q4
➔ Expected U.S. regulatory decision on Plavix® for Atrial Fibrillation	➔ Q4



Vision for the Future

**From
Boom-Bust
Cycle...**



**To Holistic Servicing
of Patient Needs**

-  **Broad range of solutions**
 -  **Branded Pharmaceuticals**
 -  **Consumer Healthcare**
 -  **Devices**
 -  **Services**
-  **Yielding better healthcare outcomes and more efficient healthcare experiences**