



SOUND OUT THE MARKET .... ... GET INTO THE MARKET

# MARKET & BUSINESS INTELLIGENCE







#### CBDMT links the innovation to the market by providing solutions to better characterize:

The Market Uncertainty How large is the potential market?

The Technological Uncertainty Will the new technology or innovation really make ours or others obsolete?

The Competitive Volatility

What products will we compete with?

Who will be the new competition in the future?

What competitive tactics will be needed?

#### **CBDMT®** assists companies in:

BUSINESS DEVELOPMENT
MARKET ANALYSIS—SURVEY
MARKET SCOUTING
INTELLIGENCE MARKETING
STRATEGY
INTERIM MANAGEMENT



#### **MARKETS:**

BIOTECHNOLOGY
PHARMACEUTICAL
CHEMICAL INDUSTRY
COSMETIC INDUSTRY
LIFESCIENCE
ENERGY



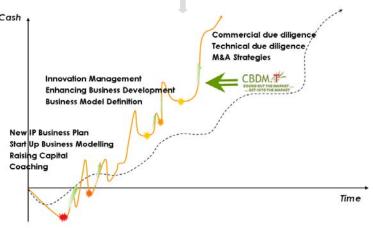




#### CBDMT® Business Mapping



## CBDMT® Business Lifecycle contribution



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## **CBDM.T®** gives you access to

- More than 6500 contacts in Life science & Chemical Industries
- Databases with over 14000 drugs in development or marketed
  - Over 5500 company profiles
  - Market and business valuation tools
- More than 250 market surveys in Biotechnology, Healthcare, Drug and Discovery, Food and Drinks, Energy, Biomanufacturing, Pharmaceuticals, Dietary supplements, Health products, Nanotechnology fields

## **CBDM.T® last focus & market survey:**



- RNAı
- BIOINFORMATICS
- FLAVOR AND FRAGRANCES
- PROTEOMICS ANALYSIS
- LEADING NANOTECHNOLOGY START-UP COMPANIES
- PROTEIN ENGINEERING
- BIOMARKER-BASED DIAGNOS-
- INFECTIOUS DISEASE
- AUTOMIMMUNE DISORDERS
- TRANSPLANTATION MARKET



- BIOREMEDIATION
- Due Diligence
- GMO & MGM
- ENZYMES

- LICENSING AGREEMENT
- BIOPRODUCTION
- BIOCATALYSIS PLAYERS
- APPLICATION FOR COSMETICS
- NCE DEVELOPMENT
- ANTIBODY
- BIOFUELS
- BIOPOLYMER



- POSTMARKETING CLINICAL RE-SEARCH (PHASE IV)
- LIFESTYLE DRUGS MARKET
- EMERGING MARKETS
- BIOSIMILARS
- AUTOIMMUNE MARKET
- Herpes Market
- CNS
- GENERICS
- PATENT PROTECTION STRATEGY
- OBESITY MARKET
- DIABETES (INNOVATION)
- Pulmonary Drug Delivery PRICING & REIMBURSEMENT IN

• INJECTABLE DRUG DELIVERY

- USA, EU, JAPAN LEADING BIOTECH COMPANIES
- ALZHEIMER MARKET
- RENEWABLE ENERGY
  - RENEWABLE ENERGY TARGETS
  - CLEAN COAL



## Energy **Environment**

- CO2 SEQUESTRATION • BIOFUELS
- SOLAR MARKET
- REMEDIATION
- GREEN ENERGY IN THE US Nuclear power
- GREEN ENERGY IN ASIA



## Consumer FOOD AND DRINKS MARKET

Goods

- ETHICAL PACKAGING
- HEALTH AND VITALITY MARKET
- FLAVOR AND FRAGRANCES
- Dairy producers
- SPIRITS MARKET
- READY MEAL MARKET
- HEALTHY SNACK MARKET
- AMINO ACID MARKET
- NUTRACEUTICALS
- CHEM VERSUS BIO
- MEAT, FISH, POULTRY MARKET

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#### **Green Biotechnology: Agricultural Biotechnology**

Green biotechnology is biotechnology for agricultural applications. During the first dozen years of commercialization from 1996 to 2007, farmers have continued to plant more biotech crops every year. In 2007, the global area of biotech crops in industrial and developing countries reached almost 120 millions hectares. The global area more than doubled in the last fiver years. The number of countries planting biotech crops increased to 23, comprising 12 developing countries and 11 industrial countries:

In order of hectarage; USA, Argentina, Brazil, Canada, India, China, Paraguay, South Africa, Uruguay, Philippines, Australia, Spain, Mexico, Colombia, Chile, France, Honduras, Czech Republic, Portugal, Germany, Slovakia, Romania and Poland.



#### Input traits:

The plant is modified to resist a certain insect, disease or the application of a crop protection agent.

#### **Output traits:**

- Agronomic traits: the plant is modified to withstand environmental stress (drought, cold, temperature etc.) or to produce higher yields
- Plants as green factories: the plant is modified to produce a valuable ingredient (specialty or bulk chemicals, enzymes etc.)

#### **CBDM.T®** last focus:

GM SOY PLANT-BASED TRANSGENIC COMPANIES AND THEIR PRODUCT PIPELINE

GM MAIZE MANUFACTURING OF BIOLOGICS BIOFUELS QUALITY

GM FOOD MARKET PLAYERS GLOBAL STATUS OF COMMERCIALIZED BIOTECH GM CROPS

PMP (PLANT MADE PHARMACEUTICALS)



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## White Biotechnology: Industrial Biotechnology

White or industrial biotechnology, the use of biotechnology in industrial processes, is a dynamic market which is rapidly gaining priority on the agendas of industrial, political, academic and nongovernmental organizations. This is because white biotechnology offers enormous opportunities, not just for the economy, but equally to our environment and to our society.

Industrial biotechnology is mainly based on fermentation technology and biocatalysis. In a contained environment, genetically modified or non-GM micro-organisms (yeast, fungi, and bacteria) or cell lines from animal or human origin are cultivated in closed bioreactors to produce a variety of goods. Likewise enzymes, which are derived from these organisms, they are applied to catalyze a conversion in order to generate the desired products.

The application of nature's toolset to the production of bio-based chemicals, materials and fuels is key as it will:

- Have a strong impact on the environment allowing substantial reductions of greenhouse gas (17%-65%), of emissions to water and to air and resource usage (renewable feedstock)
- Have an estimated **potential economic value** for the chemical industry alone of €11-22 billion by 2010-2012 (cost reduction, additional revenues and process efficiency increase)

#### CBDM.T® last focus:



**Biofuels** 

FIRST GENERATION SECOND GENERATION

**TECHNOLOGY** 

ENERGY DEMAND

FTHANOL **BIODIESEL**  MARKET DRIVERS

MARKET SIZE

BIOMASS AND LAND AVAILABILITY

REGULATIONS



**Bioproduction** 

ENZYME MARKET **EU PLAYERS** 

**BIOCATALYSIS** 

**BIOCONVERSION** 

OLIGONUCLEOTIDES OUTSOURCING

**BIOPLASTIC** 

MARKET DRIVERS

MARKET SIZE

CMO

**EXPRESSION SYSTEMS** 



MICROBES

**BIOLOGICS** 

INDUSTRY FORECASTS

**TECHNOLOGY** 

MAMMALIAN CELL

OUTSOURCING

MARKET TRENDS

MARKET DRIVERS

MARKET SIZE **TRANSGENIC** RECOMBINANT THERAPEUTICS

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#### Red Biotechnology: Healthcare Biotechnology

The original "biotech" market and certainly the most well-known is the red biotech segment which includes medicines and diagnostics (Top 10 red biotech companies: Amgen, Genentech, Serono, Biogen, Genzyme, Chiron, Gilead Sciences, CSL, MedImmune, Cephalon). The red biotech is focused on providing patients with innovative treatments or diagnostics. This segment includes companies working on cells and tissues, stem cells, gene therapy, orphan drugs, proteomics, pharmacogenetics, genetic testing etc...

Modern biotechnology is applied in medicine and health care in therapeutics, mainly for the discovery, development and production of novel drugs, large molecules (biopharmaceuticals) but also small molecules, in preventives for the development of recombinant vaccines and in diagnostics, for protein— and nucleic acids based tests. The worldwide pharmaceutical market in 2007 was about \$698 billion USD (80% USA, EU and Japan). Biopharmaceuticals represented >10% of the corresponding pharmaceutical market.

#### CBDM.T® last focus:

IMMUNOMODULATORS TOP BIOTECHS DRUG DISCOVERY FASTEST GROWING COMPANIES

BIOGENERICS BIOMANUFACTURING MARKET DRIVERS PRODUCT PIPELINE

CRO MARKET NANOTECHNOLOGY BIOTECH IN CHINA POST-GENOMIC ERA

VACCINE MARKET METABOLOMICS BIOINFORMATICS STEM CELL

GENOMICS BIOMARKERS SMALL MOLECULES EU BIOTECHNOLOGY

RNAI BIOPARTNERING PROTEIN ENGINEERING DRUG DESIGN



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#### **Pharmaceutical Industry**

In a year of transition, global pharmaceutical sales are expecting to grow 5-6% to over 735 USD billion in 2008 (including generics), compared with 6-7 % in 2007, driven by the declining costs of drug treatment in major therapy areas, increased uncertainty over safety, pricing and market access, and intellectual property issues. There will also be a shift in growth from the top seven markets to emerging markets, and from primary care-driven to specialty care-driven drugs.

Fastest growing treatment < categories :

- vaccines with over 15-18% per annum to 2011, driven by strong HPV vaccines (Cervarix, Gardasil), paediatric vaccines (Rotarix),
- HIV with an expected growth of 12-13% per annum driven by high prevalence, success of triple combination therapies and new launches,
- Neurodegeneration with a growth of 12-15% per annum
   driven by interferons, Copaxone and Tysabri.

#### CBDM.T® last focus:



**Drug discovery** 

BIOMARKERS BIOINFORMATICS LEAD OPTIMIZATION

EMERGING TECHNOLOGIES ADAPTIVE TRIALS

Drug development in China Nanotechnology

LICENSING OUTSOURCING ALLIANCES LIFECYCLE

Strategy Branding Contract Manufacturing R&D productivity

CRO GROWTH OPPORTUNITIES IN BRIC

VACCINES CNS EMERGING MARKETS TECHNOLOGY

Markets CARDIOVASCULAR HIV/AIDS PRICING ANTI-INFECTIVES

ALZHEIMER GASTROINTESTITNAL DERMATOLOGY CANCER

Other Market Valuation NPV Models Product Pipeline Analysis

Information and Communication Technologies in Healthcare

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#### **Biofuels**

Over 80% of the world's primary energy supply is currently derived from coal, gas and oil. The combination of biomass and biofuels accounted for nearly 20% of the world's total renewable energy production in 2005. Biomass is distinguished from fossil fuels as it refers to energy or carbon source from biomaterial (vegetable, sugar cane, corn cobs etc.). Instead of biomass direct burning, a significant efficient way is to process biomaterials into solid, liquid or gas form to produce biofuels. In 2005, less than 1% of the world's fuel supply was derived from biofuels.



Biofuel Market Drivers

- · Oil supply and demand (prices and volatility),
- Environmental concerns (emissions and sustainability)
- National interest (security of supply, strategic independence, rural development opportunity),
- Biotechnological progress (better enzymes and microorganisms).

#### CBDM.T® last focus:



R&D

BIODIESEL FROM MICROALGAE

**BIOMASS PRETREATMENT** 

MARINE BIOMASS PRODUCTION

START-UP MAPPING IN BIOFUELS

BIOMASS CONVERSION TECHNOLOGIES

TRENDS



Strategy

GREEN ENERGY FROM BIOMASS AND WASTE IN EUROPE

**BIOMASS SOURCES** 

BIOFUELS INFRASTRUCTURE IN EUROPE



**Markets** 

BIOFUELS MARKET SIZE AND FORECASTS

MARKET DRIVERS AND INHIBITORS

BIOFUELS MARKET OUTLOOK

GLOBAL ETHANOL PRODUCERS, 2005

COST OF DISTRIBUTION



Other

**BIOFUELS POLICIES AND REGULATIONS** 

**BIOFUELS ENERGY TARGETS** 

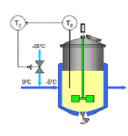
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## Outsourcing in the pharmaceutical industry

With a global contract and manufacturing outsourcing (CMO) and contract research services (CRO) market up to \$30 USD billion, the outsourcing industry is growing at more than 10% per annum. The contract manufacturing sector is becoming increasingly important in the biopharmaceutical industry. Large companies are scaling back on production and focusing on core competencies, resulting of manufacturing activities. Biomanufacturing account for more than 10% of the CMO market. In an emerging business model, CMOs are engaged in both contract research and contract manufacturing. These dual models, which offer molecule synthesis from milligram to the multi-hundred-ton scale, are called Contract Research And Manufacturing Organizations (CRAMS).



outsourcing Market ≺ Drivers

- Regulatory and financial pressures,
- · Cost, lead time and resource savings,
- · Expansion of biopharmaceutical markets,
- Restructuring of pharmaceutical production,
- Global shift of manufacturing activities from high-cost to low-cost regions.

#### CBDM.T® last focus:



Sourcing

DUE DILIGENCE

KEY FACTORS IN SELECTING AND MANAGING CMO

PRICING

SUPPLY CHAIN DEFINITION

SUPPLIERS MAPPING

INIDIA AND CHINA EMERGING MARKETS



**Biologics** 

CONTRACT BIOMANUFACTURING MARKET

EXPRESSION PLATFORMS

MARKET DRIVERS

WW PLAYERS

MICROALGAE



CRO

OUTSOURCING BY PHASE

TRENDS

INDIA MARKET

MARKET OUTLOOK

**US MARKET** 

CRO SERVICE MODELS

Leading Players

**EU MARKET** 

المالية المالية

**CMO** 

BIOCATALYSIS PLAYERS

FINE CHEMICALS

PARTNERSHIP OPTIMIZATION

END MARKET ANALYSIS

**BRAC OPPORTUNITIES** 

**PRICING** 

M&A

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