



IMUGENE

Animal Health Biological Products

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Executive Chairman

MARKET UPDATE

July 2004

IMUGENE

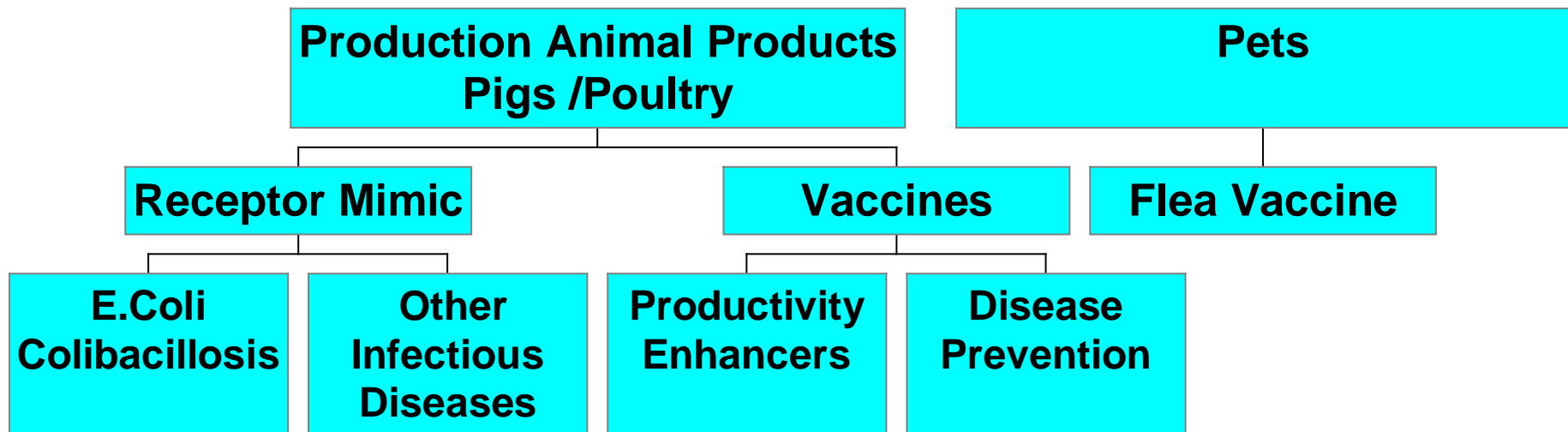
LIMITED

IMUGENE

A biopharmaceutical company

- **Developing & commercialising biological animal products to:**
 - Improve animal health
 - Cost effectively improve productivity of intensively farmed animals
 - Eliminate antibiotic and chemical residues in food
 - Eliminate antibiotic resistant “superbugs”

BIOLOGICAL SOLUTIONS



BIOLOGICAL SOLUTIONS

- **Pig/poultry producers spend \$2.5b on preventative treatments**
 - Sick animals cause expensive production losses
- **Antibiotics currently fed to pigs/poultry**
 - Remain in food chain
- **Antibiotics being phased out**
 - Safe and non-chemical solutions needed
- **Imugene's biological products**
 - Effective/affordable alternatives to improve animal health
 - Reduce major global problems of antibiotic resistant 'superbugs'

STRATEGIC DIRECTION

Continue to increase shareholder value



strong focus on commercialisation



contract 'bio-manufacturing' & partnering arrangements



lead products have large markets and near term market launches



MANAGEMENT TEAM

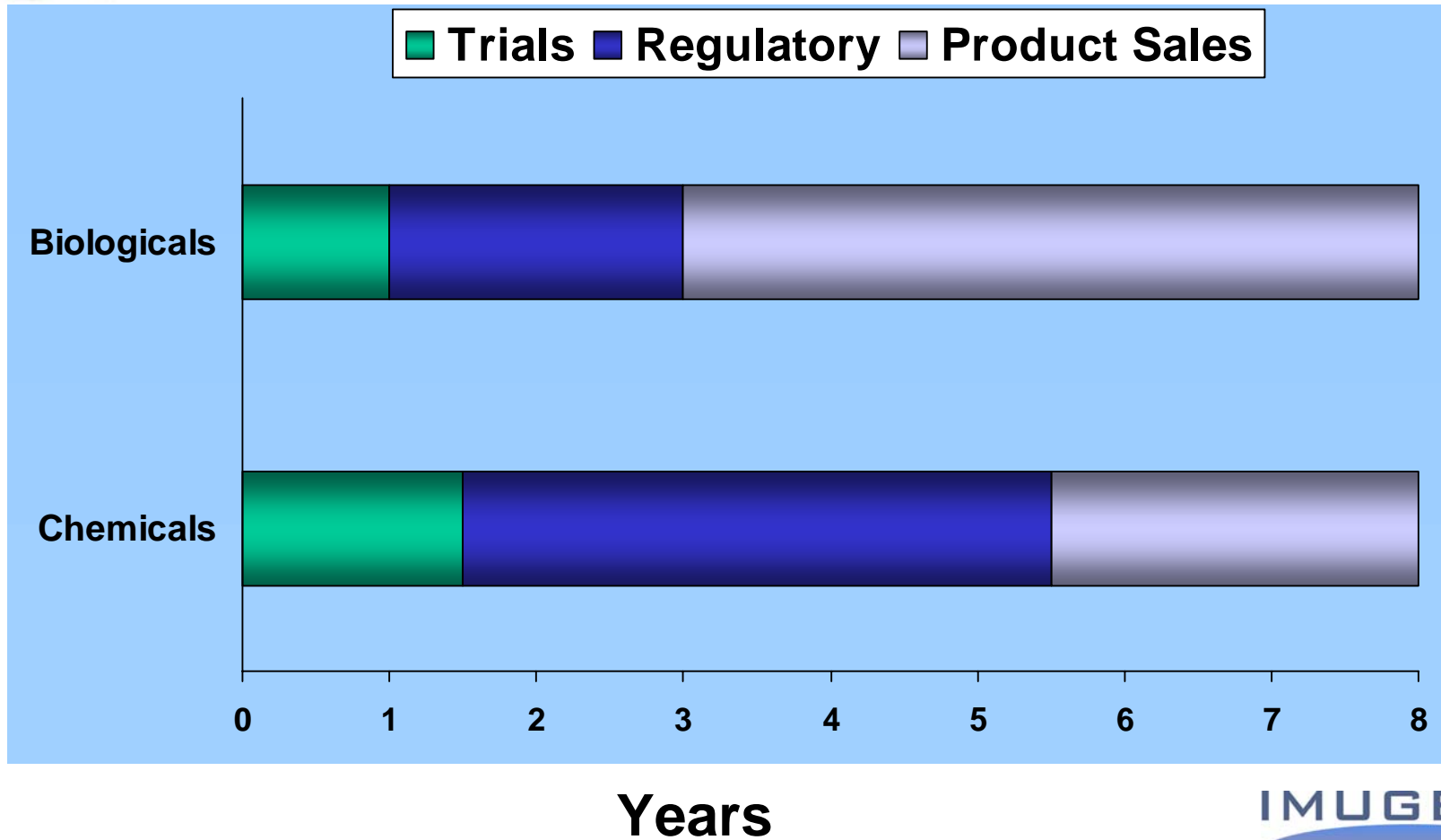


- **Strong management team**
 - **proven experience in international animal health companies**
 - **Taking products from research to international markets**
 - **Management of R&D under commercial guidelines**
 - **Integrating research and regulatory affairs**
 - **Product sales, marketing and technical support**

REGULATORY PROCESS

- **Not US FDA**
- **US Department of Agriculture**
 - Shorter time frame for registration
 - Less stringent data requirements
 - Less expensive dossier preparation
- **Biologicals and vaccines quicker to register than drugs or chemicals in all international markets**
= Biologicals quicker to market than drugs

TIME TO MARKET



MARKET POTENTIAL PRODUCTION ANIMALS

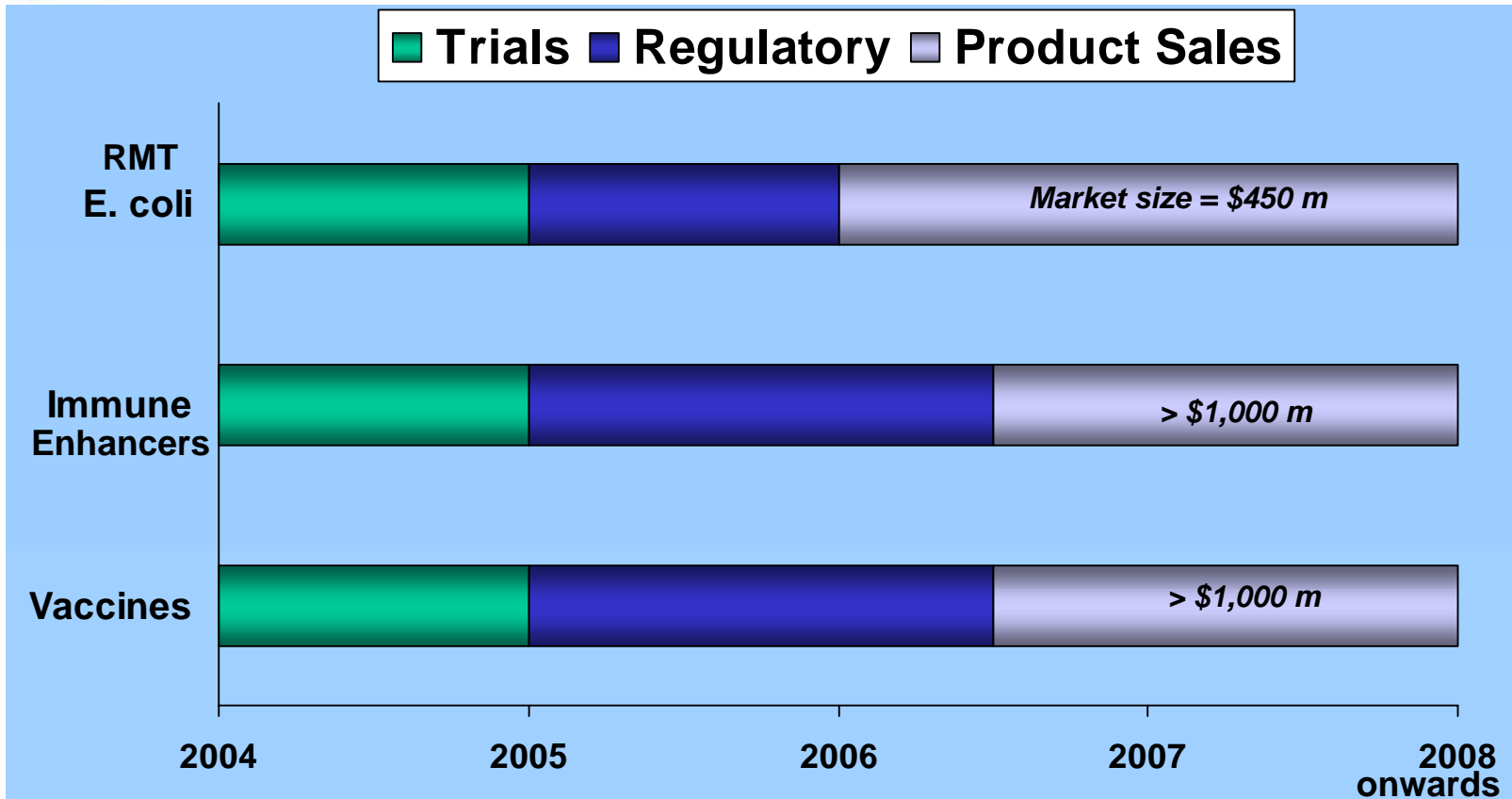
Pigs

- Health market – US\$3.5 b pa
- Imugene covers market segments in excess of US\$1.5 b pa

Poultry

- Health market – US\$3.3 b pa
- Imugene covers market segments in excess of US\$1.2 b pa

LEAD PRODUCTS



RECEPTOR MIMIC TECHNOLOGY

HOW IT WORKS

- **Bacteria, viruses and protozoa cause disease by:**
 - **Producing toxins that bind to receptors on the gut wall**
 - **Adhering to receptors on the gut wall**
- **RMT mimics these receptors**
- **Toxins or organisms bind to the RMT in the gut and are harmlessly excreted**
- **RMT prevents production loss from disease**

COMPETITIVE ADVANTAGES

- **RMT cannot contribute to antibiotic resistance**
- **RMT has no effect on beneficial bacteria**
- **Easy, cost effective manufacture**
- **More rapid to market than chemicals/drugs**
- **No side effects**

RECEPTOR MIMIC TECHNOLOGY

- **Initial external trials should commence by August**
 - 3 - 4 weeks to complete
- **Scale up to commercial production in TGA approved facility has commenced**
- **Short regulatory trials using approved product**
- **Commercial production by approved contract manufacturer**
- **Distribution via established international veterinary distributors**

WHY CONTRACT MANUFACTURE?

- **Maximises shareholder returns**
 - Lower capital expenditure
 - No time required for factory construction
- **TGA approved product sourced from approved contract manufacturer starts regulatory process much earlier**
 - Most rapid path to market
 - More sales during patent life
- **Flexibility in response to market demand**

The top of the slide features a blue gradient background. On the left, there is a blurred image of laboratory glassware, including several test tubes and a rack. On the right, there is a blurred image of a green chicken. The main title is centered in large, white, bold, sans-serif capital letters.

ADENOVIRAL DELIVERY VECTOR TECHNOLOGY

Patented Platform Delivery System

10 products currently under development

- **7 vaccines against pig/poultry diseases**
- **3 biological productivity enhancers**
- **Large international markets**
- **Rapid development of new products for new diseases**
 - **PRRS (‘pig reproductive & respiratory disease’)**
 - **Avian Influenza (‘bird flu’)**

COMPETITIVE ADVANTAGES

- **Vaccines are highly protective**
- **Easy to administer (feed, water or aerosol)**
- **Trials increase poultry/pig growth up to 10%**
- **Antibiotic feed additives deliver <4%**
- **Vaccines are effective against some diseases that existing vaccines cannot protect against**
- **Residue free in animal**
- **No genetic modification of animal**

CURRENT AGREEMENTS

- **Merial (Merck and Aventis) – world leading animal health company (annual turnover of US\$1.7 b)**
 - **3 vector products under contract**
- **Market leader in Viral Vector Vaccines**
- **External recognition**
- **Merial to fund all regulatory, trial and scale up manufacturing costs**
- **Expertise/resources in international product development, regulatory affairs and marketing**

FLEA VACCINE

- **Novel approach to flea control**
- **Pre Proof of Concept**
- **Global market is in excess of US\$1.5b pa**
- **Expect to exceed sales of current top selling flea control product (approx US\$480 m pa)**
- **High profit margins**

IMUGENE STRATEGY

- **Balance early cash flow with long term profit**
- **Limited number of licenses for early products**
- **Focus on products for new markets**
 - No existing competition
 - Commercial demand expedites development
- **Launch products to major markets**
- **Deliver patented genes owned by other companies**
- **Contract 'bio-manufacture' and distribute**
 - Some Adenoviral Vector Products
 - RMT products
 - Flea product

CAPITAL STRUCTURE

Shares on issue	108 m
(major holders: board 15%, Clough 9.5%)	
Options :	
A. public: (11.25c exp. Dec 04)	2.8 m
B. consultants: (22.5c exp. Oct 07)	4.6 m
C. directors & mgmt (30c exp. Dec 06)	6.0 m
<u>Cash</u>	
Current reserves – June 2004	\$1.0 m
Due from other sources in 2nd half 2004	\$1.1 m
(options (see A), grants & other)	
Burn rate per month (12mth average)	\$0.14 m

KEY POINTS

- **Biological solutions: replacing drugs and chemicals**
 - Poultry & pig health & growth promotion and disease control
 - Flea control in companion animals
- **Effective & safe - no residues or genetic modification of animal**
- **Large existing global markets & potential to expand markets**
- **Multiple commercialisation strategies**
- **Multinational pharmaceutical validation – including Merial**
– the world's leading animal health company
- **IP secure – patent position**
- **Relevant and experienced management of research, development, commercialisation and corporate finance**