



National Research Centre Cairo-Egypt

www.nrc.sci.eg

NRC in Brief

NRC 2010



Established 1956

- 12 Feddans.
- 10 Research buildings.
- 2 Administration buildings.
- 10 Store rooms.
- Animal houses.
- Green houses.
- 5 Experimental stations.
- Research farm 350 feddans.

NRC

The major multi-disciplinary R&D Institute in Egypt

- 🧪 Devoted to **basic** and **applied** research.
- 🧪 The largest of all institutions affiliated to the **Ministry of Scientific Research**.
- 🧪 Employs **70%** of all scientists working in these institutions.
- 🧪 Correspond to the country's key **production** and **services** sectors.

NRC Mission

Conduct Basic and Applied Research

in

Different Fields of Science and Technology

to

Strengthen the National Economy

NRC Objectives

- 🧪 Contribute in national **upgrading** of **science** & **dissemination** of knowledge
- 🧪 Guide **national economy**
- 🧪 Strengthen scientific linkages and **cooperation** with **local** and **international** organizations
- 🧪 Provide scientific **services** and **consultations**
- 🧪 **Training** graduates and researchers

NRC Strengths

Man Power



Research Staff : 3893



Scientific Assistance : 954



Administrative Staff : 2555

Organization Structure



Organization Structure (cont.)

Research Divisions



-  Health and Environment
-  Industrial Research
-  Agriculture and Biology
-  Basic Science

Research and Development

Research Projects

Customer-Oriented

Addressed to national needs

1- In-house projects - Governmental budget (18%)

8th plan (2007-2010): Hydrogen production –
Water desalination – Advanced materials

2- National projects – contracts (30%)

3- International projects (52%)

Current Strategy

 **Advanced Basic Scientific Research**

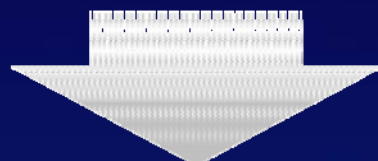
 **Interaction with Production and Service
Sectors (applied research)**

 **International Relations**

Advanced Basic Scientific Research



Centre of Excellence for Advanced Science (Road to Nobel)



Technological Incubators

Laser technology

Renewable energy

Advanced materials and nanotechnology

Safe agriculture

Food risk analysis

Cancer biology

Prof.Dr. Mohamed Abdel Rehim's lab. for drug research

Medical and chemical information biology

Plant molecular genetics

Vaccines

Infectious diseases and immunology

Genetics of hydrobiology

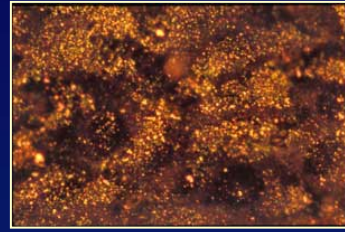
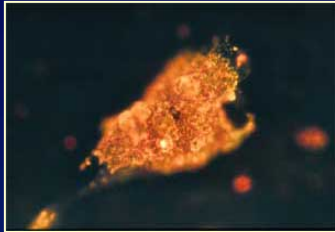
Stem cells research

Marine natural products

Medicinal chemistry and drug design

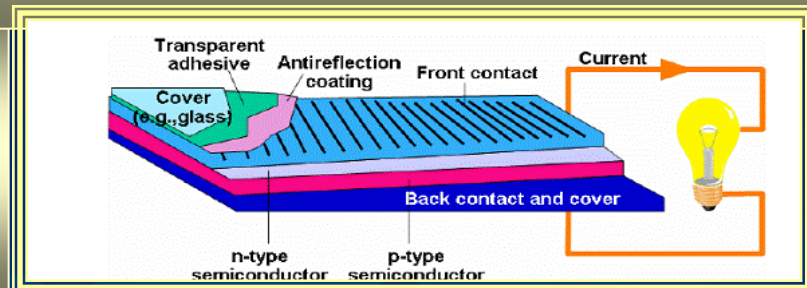
Tumor molecular pathology

On going Major Projects

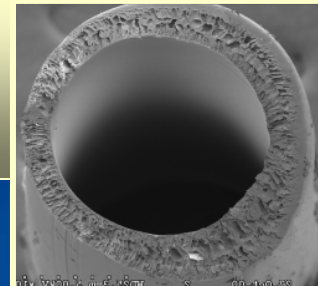


Use of gold nanoparticles for the diagnosis and treatment of cancer

Production of Egyptian solar cells from nanoparticles



Engineering and technological development of water desalination membranes



Study the Ancient Egyptian Mummies

- **A medical and scientific research team study the Ancient Egyptian Mummies at the era of Ramses King.**
- **Egyptian research groups from NRC and the Faculty of Medicine In collaboration with Dr. Zahi Hawas general secretary of the Supreme Council of Antiquities.**

Others

- **Fuel Cells for Electricity Generation**
- **Construction with Rice Straw bales
As a Sustainable Environment Friendly
Building Material**
- **Bio Diesel Fuel**
- **Hydrogen as a premium quality clean energy**
- **Advanced Composites For Application in
Special Structure**

Biotechnology Plant Unit



Pilot Plant

A multipurpose Pilot Plant, a Chinese Grant



Some Plant Equipments



Distillation



2 Reactors



Multi-speed Centrifuge



Extraction



Filtration



Dryer



Absorption

Current Strategy (Cont.)

Interaction with Production and Service Sectors

Current Strategy (Cont.)

- 🧪 Establishment of **Businessmen and Investors' Office**.
- 🧪 Including **key investors** in the Board of directors and divisions .
- 🧪 **R. & D. Council**.
- 🧪 **Special Service Units**.

Current Strategy (Cont.)

- 🧪 Organizing **workshops, symposia, conferences and field visits and studies.**
- 🧪 **Exhibitions for scientific products.**
- 🧪 Production-oriented **Ph.D.** research points.
- 🧪 Central Unit for Analysis and Scientific Service (**CUSS**).

Current Strategy (Cont.)

CONTRACTS Signed between
NRC and the Different Sectors



Current Strategy (Cont.)

“Committee of Research & Development and Technology Transfer”



NRC



Federation
of
Egyptian
Industries

Current Strategy (Cont.)

Service Units

NRC has **75** Specialized Service Units

Service Units in different sectors:

-  **Industry**
-  **Health**
-  **Agriculture and Veterinary**
-  **Environment**
-  **Information Technology**
-  **General services**

Current Strategy (Cont.)

INTERNATIONAL RELATIONS

International Relations



International Relations Office:

Scientific channels with regional and international universities and research centers.

Projects, contracts and scientific agreements.

African Relations Office:

Promotes the Scientific cooperation with African countries

European Relations Office:

Promotes the Scientific cooperation with European countries

NRC Networking

International Organizations:

- 🧪 Center of excellence (2004) by the Commission on Science and Technology for Sustainable Development in the South, COMSATS & for Biotechnology (2007)
- 🧪 The interim regional hub in Biosciences for North Africa by the New Partnership for Africa's Development, NEPAD
- 🧪 Third World Academy of Science, TWAS
- 🧪 Third World Network for Scientific Organizations, TWINSO
- 🧪 World Association of Industrial and Technological Research Organizations, WAITRO

NRC Networking (Cont.)

Recently Signed International Protocols

- 🧪 **Korean** Industrial Technology Foundation
- 🧪 National Engineering Academy of **Kazakhstan**
- 🧪 Yarmuke University in **Jordan**
- 🧪 University of **Lebanon**
- 🧪 **Sudanese** Food Research Centre
- 🧪 **Sudanese** Centre for Research and Industrial Consultations
- 🧪 ICT Trust Fund
- 🧪 National Cancer Institute , **USA**
- 🧪 **Arab Union of Textile Industries**

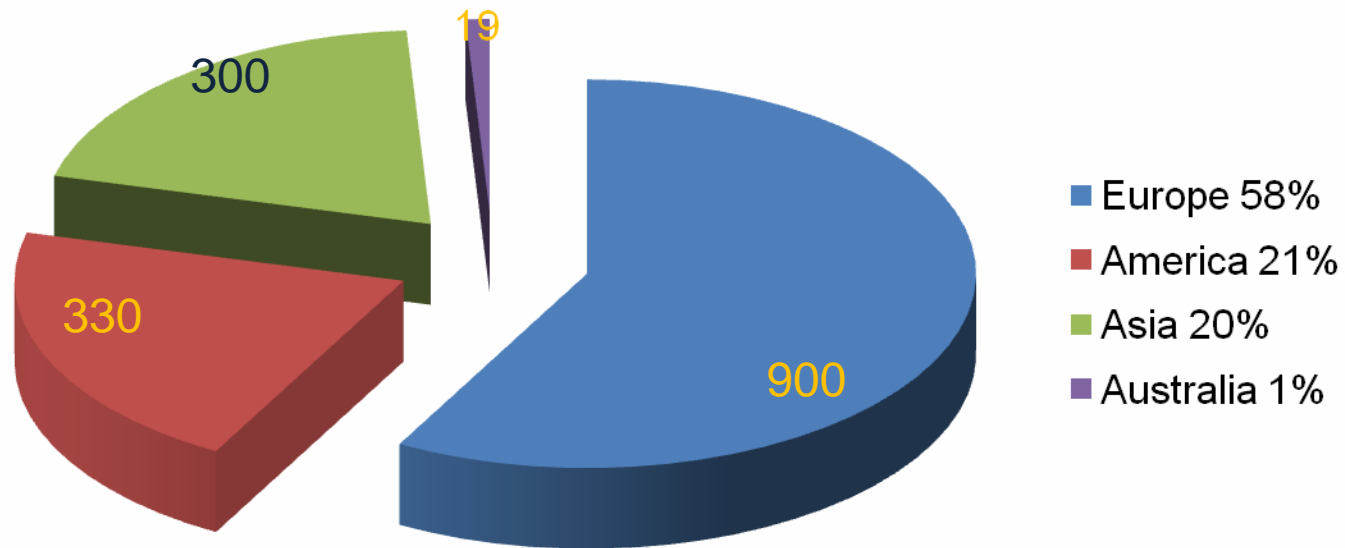
NRC Networking (Cont.)

Recently Signed International Protocols (Cont.)

- 🧪 Burg Burerag Institute, **Algeria**
- 🧪 Lancaster University in **UK**
- 🧪 University of **Basel, Switzerland**
- 🧪 University of **California, San Diego, USA**
- 🧪 Industrial Accident Prevention Association (IAPA), **Toronto, Canada**
- 🧪 World Food Program
- 🧪 NABNET
- 🧪 University of LEBREC, **Czech Republic**

NRC Networking

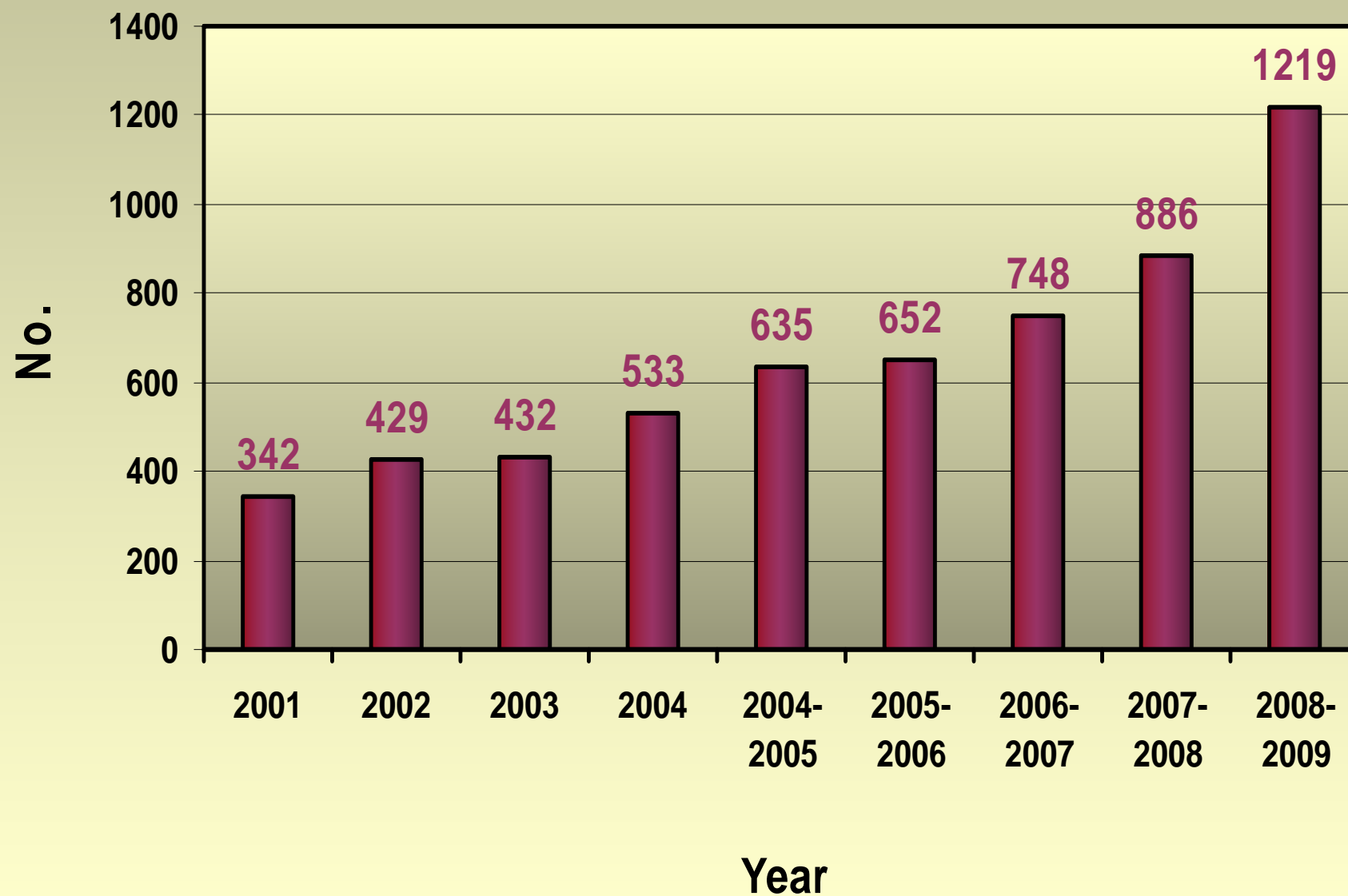
NRC Scientific Cooperation (2000/2010)



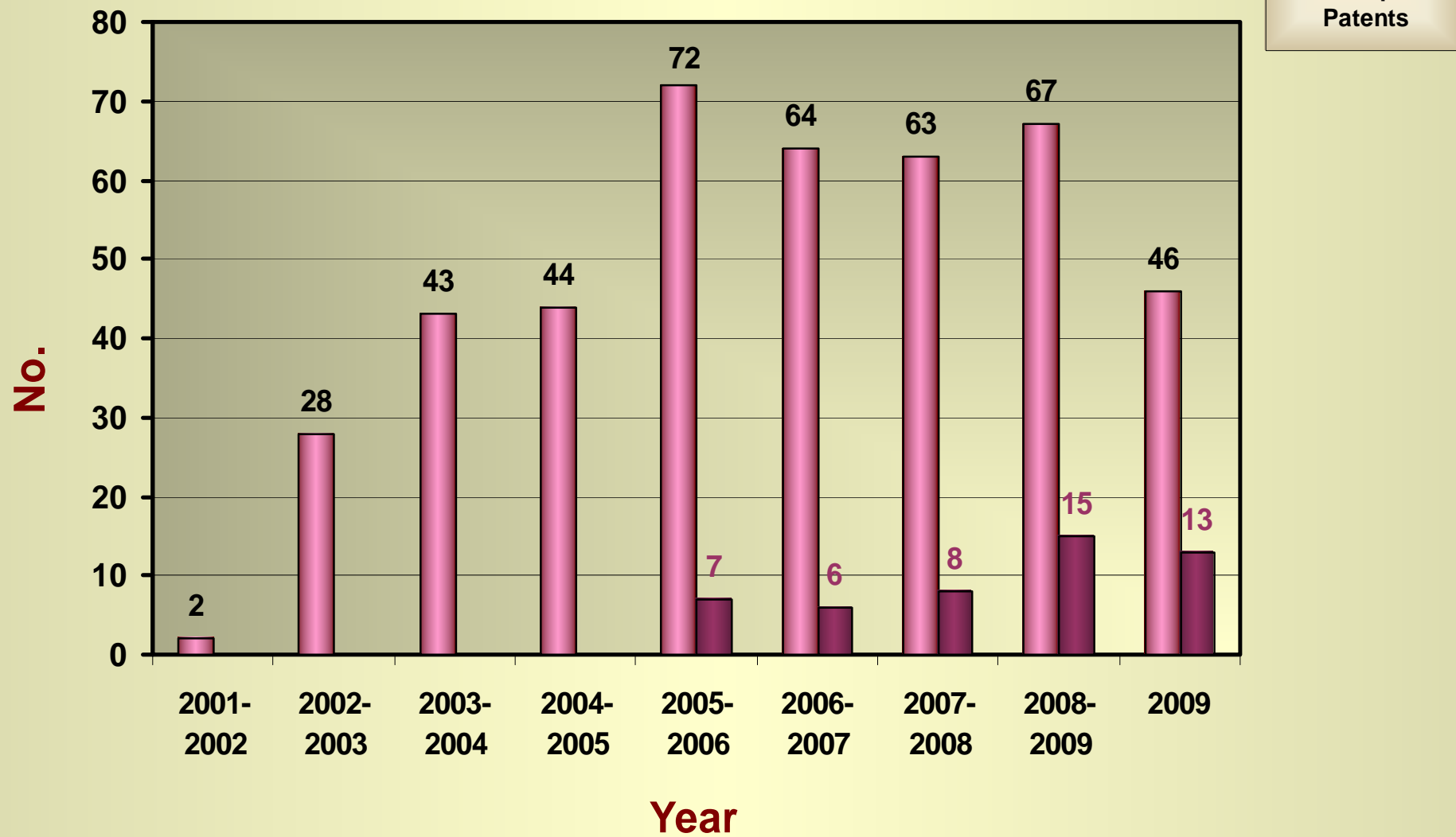
Scientific Records

International Publications

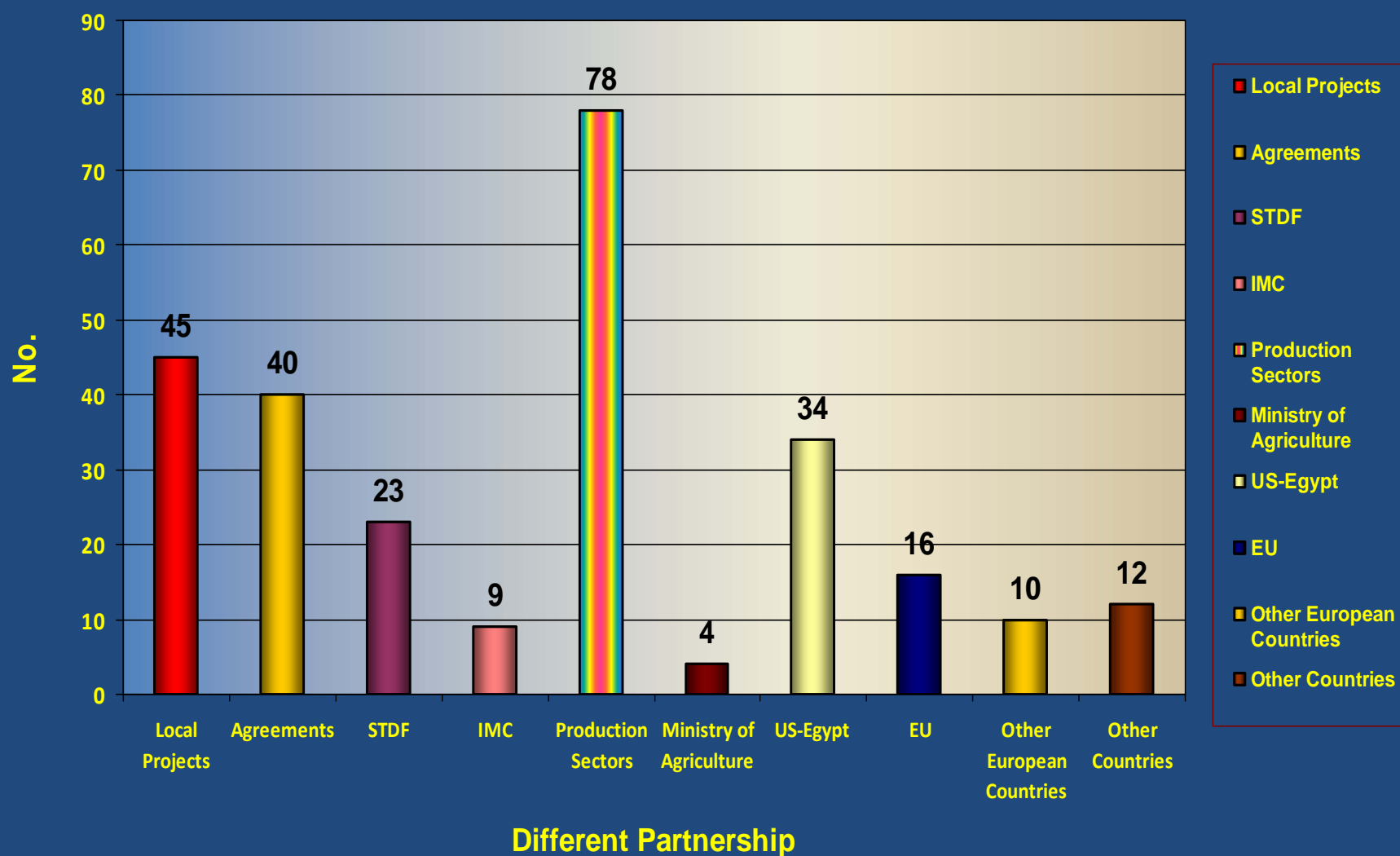
■ No.



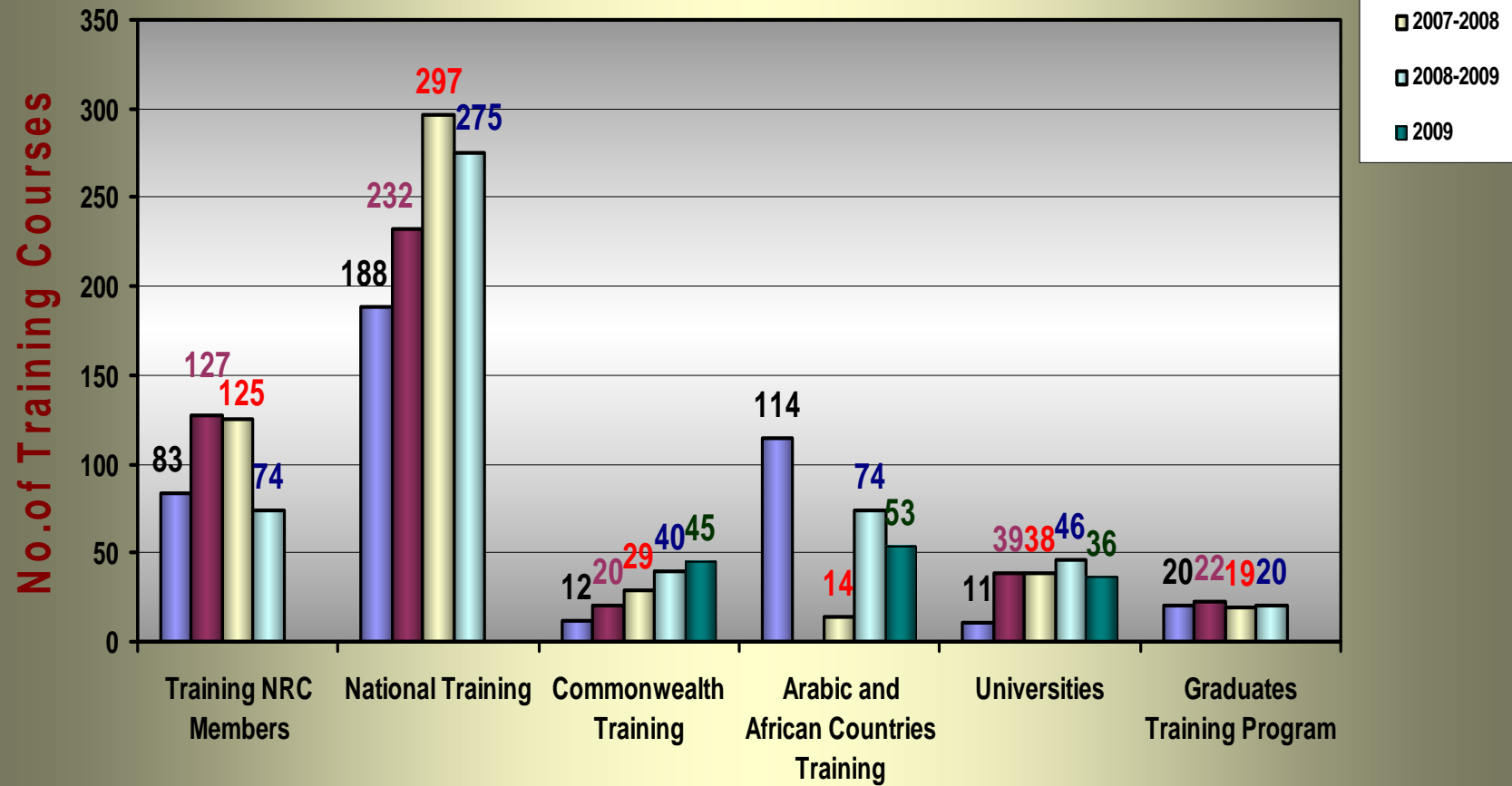
No. of Submitted & Accepted Patents



Local and Foreign Research Projects - 2009

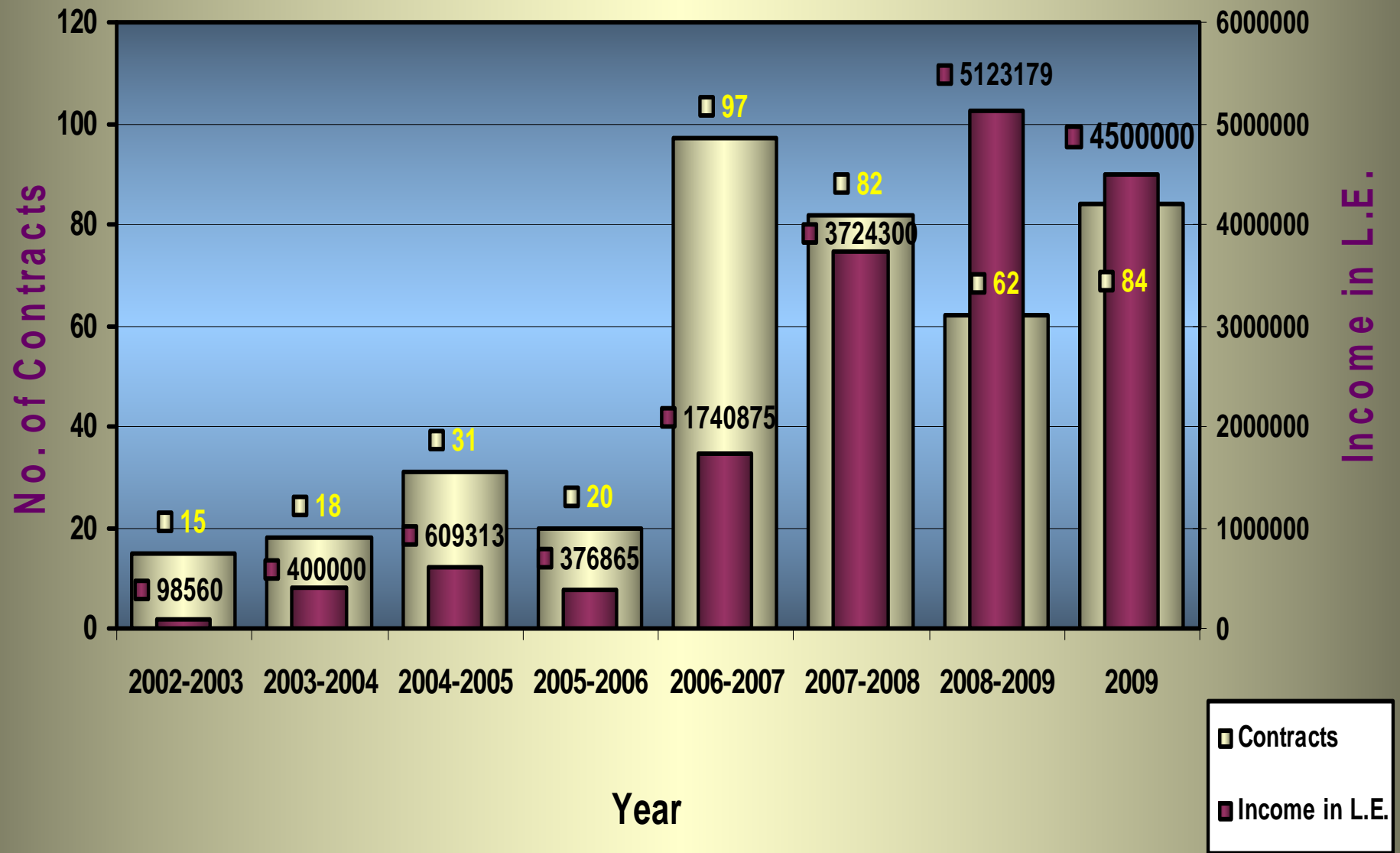


Training

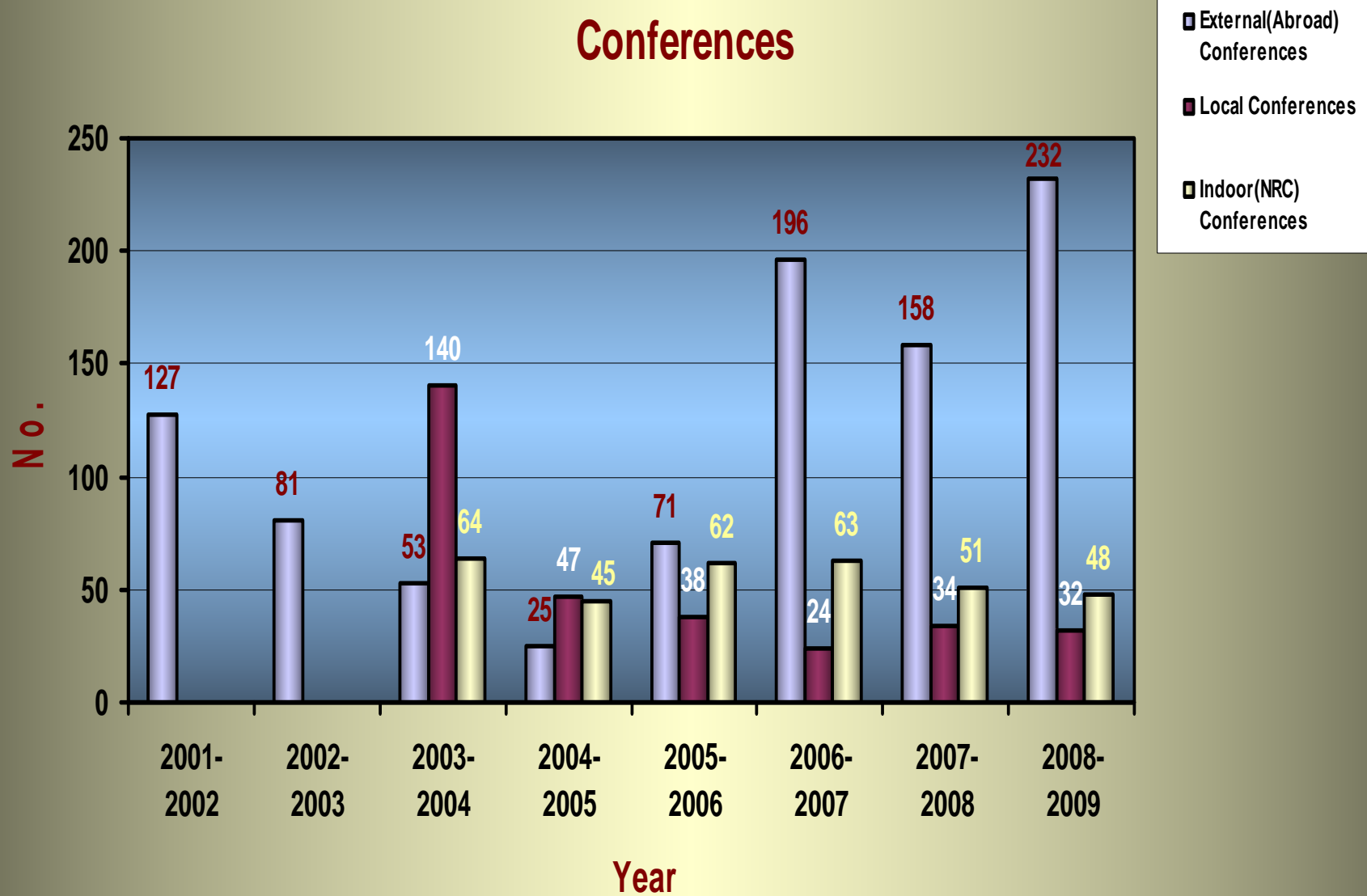


Trainees

Contracts Through Businessmen and Investors' Office

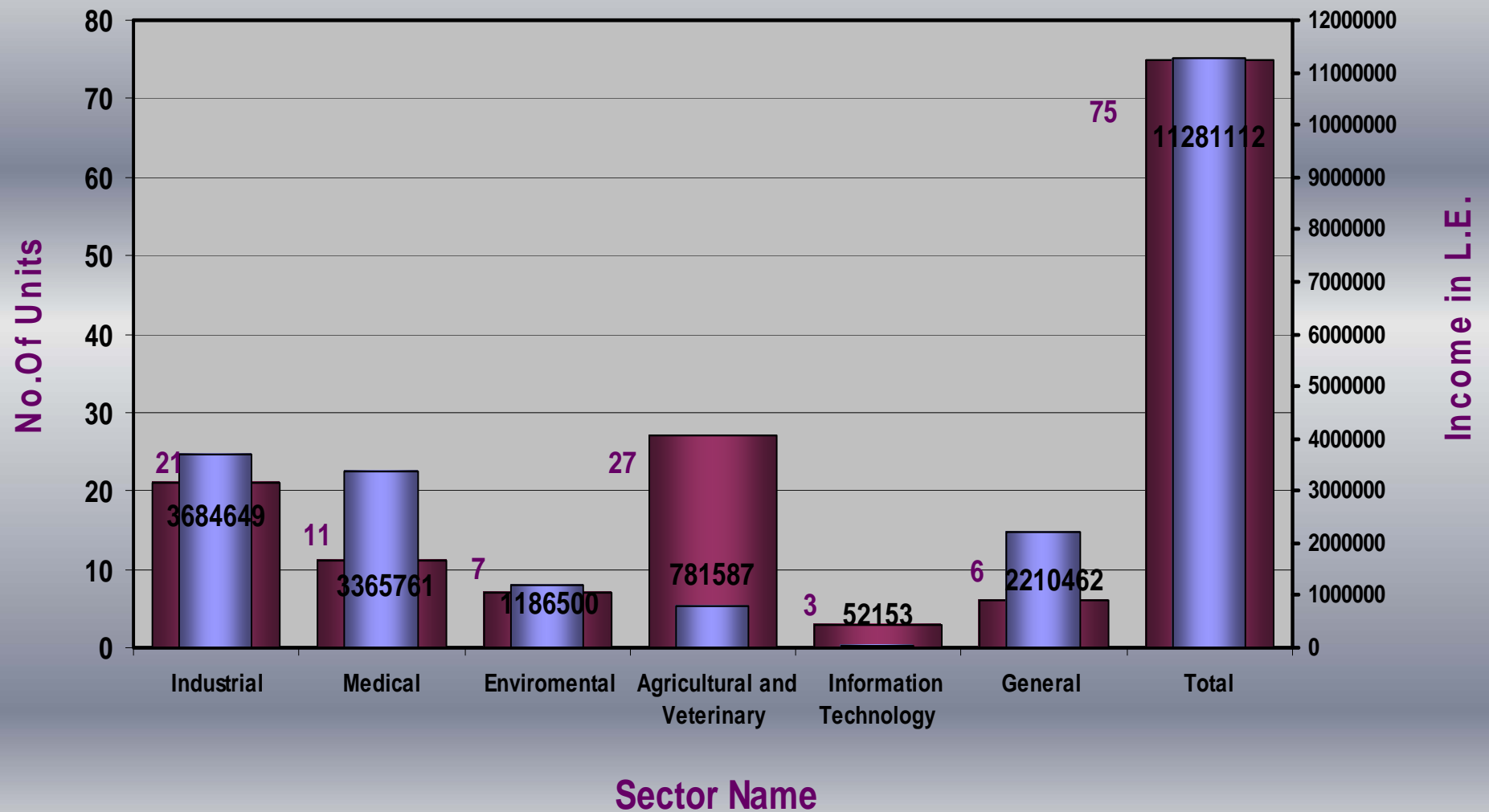


Conferences



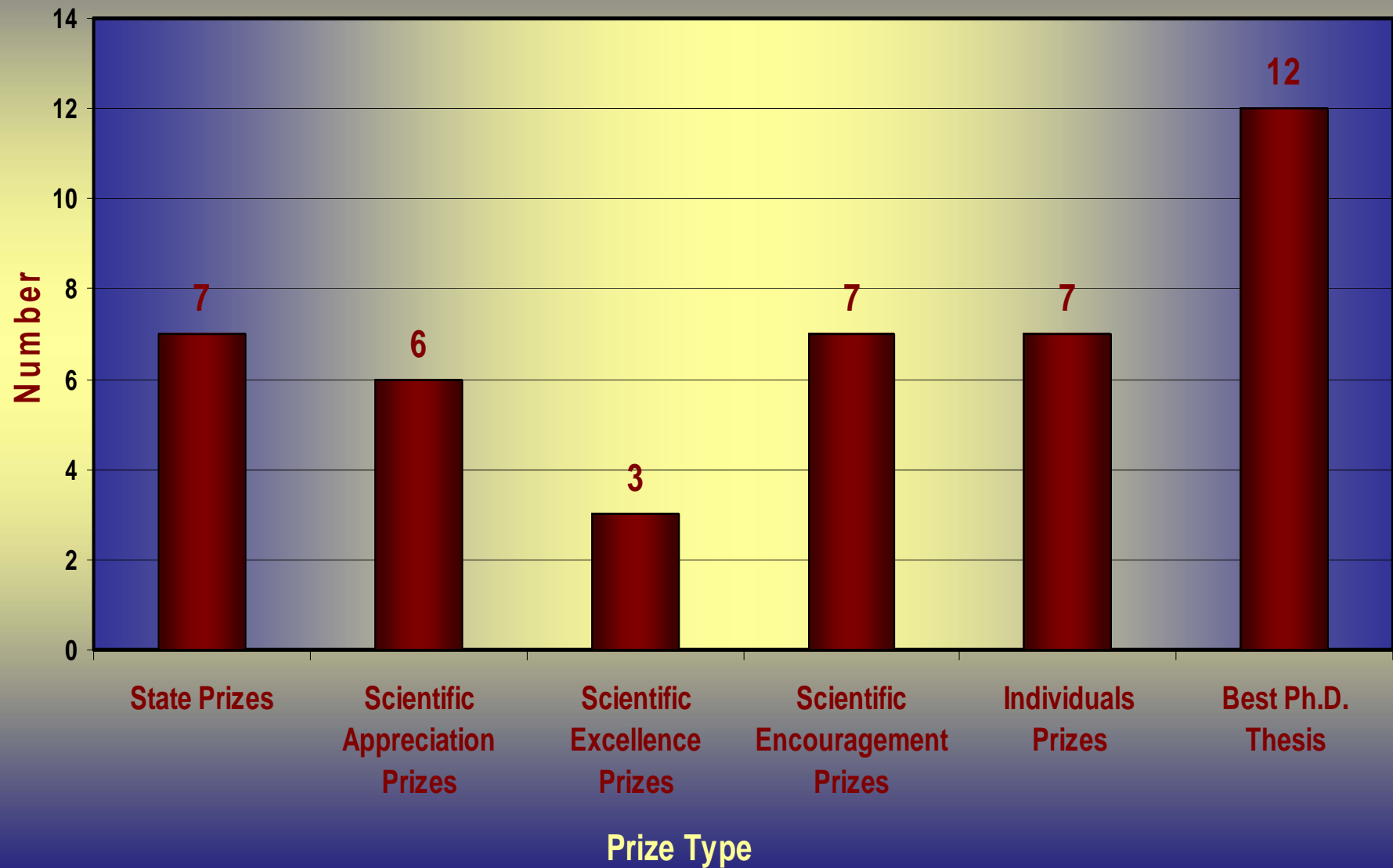
Units of Special Services - 2009

■ Number of Units
■ Income in L.E.



NRC Prizes-2009

■ Number Of Prizes



Thank You