ASRT: Innovation for Better Life

Public Innovation In Egypt: Current Status and Future Prospects

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Content:

1-Egypt Vision and STI strategy 2030: An overview

2- Innovation in Egypt STI system: Public Innovation

3- Proposals for fostering public innovation

4- Examples from ASRT

Egypt is one of the best
30 Economies globally
by 2030

Vision
By 2030, Egypt shall have a balanced, diversified competitive economy that counts on **innovation and knowledge,** and based on justice, social integration and participation.

knowledge, innovation and scientific research pillar in Egypt vision 2030:
By 2030, Egypt shall be creative, innovative and productive in science, technology and knowledge through comprehensive integrated system that guarantees the developmental value of innovation and knowledge, and links knowledge applications and innovation outcomes to the national goals and challenges.

Themes

السياسة الخارجية والأمن القومي والسياسة الداخلية

البعد الاجتماعي
العدالة الاجتماعية
الصحة
التعليم والتدريب
الثقافة

البعد البيئي
البيئة
التنمية العمرانية

البعد الاقتصادي
التنمية الاقتصادية
الطاقة
المعرفة والابتكار والبحث العلمي
الشفافية وكفاءة المؤسسات الحكومية

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Strategic Objectives

➢ **Creating an environment that encourages knowledge localization and production**

Increasing knowledge production through the creation of well prepared legislative, investment and funding environment, and infrastructure

➢ **Preparing and improving an integrated national innovation system**

Promoting / enhancing innovation efficiency through encouraging innovative production, increasing the link between innovation and needs, and improving elementary education, higher education, research and development.

➢ **Linking knowledge applications and innovation outcomes to national priorities**

Determining the sectoral priorities and challenges, and their ways of canalization/stimulation through increasing the knowledge based production of the priority sectors, and targeting raising the local components

Main challenges facing knowledge, innovation and scientific research

- **Legislative system** for the encouragement and protection of innovation is weak

- **Poor effectiveness** in the coordination between the social needs and innovation

- Low ability of small, medium and new enterprises (SMEs) on innovation

- **Absence (weak) of innovation culture in the society**

- Lack of awareness of the importance of intellectual properties Rights (IPR)
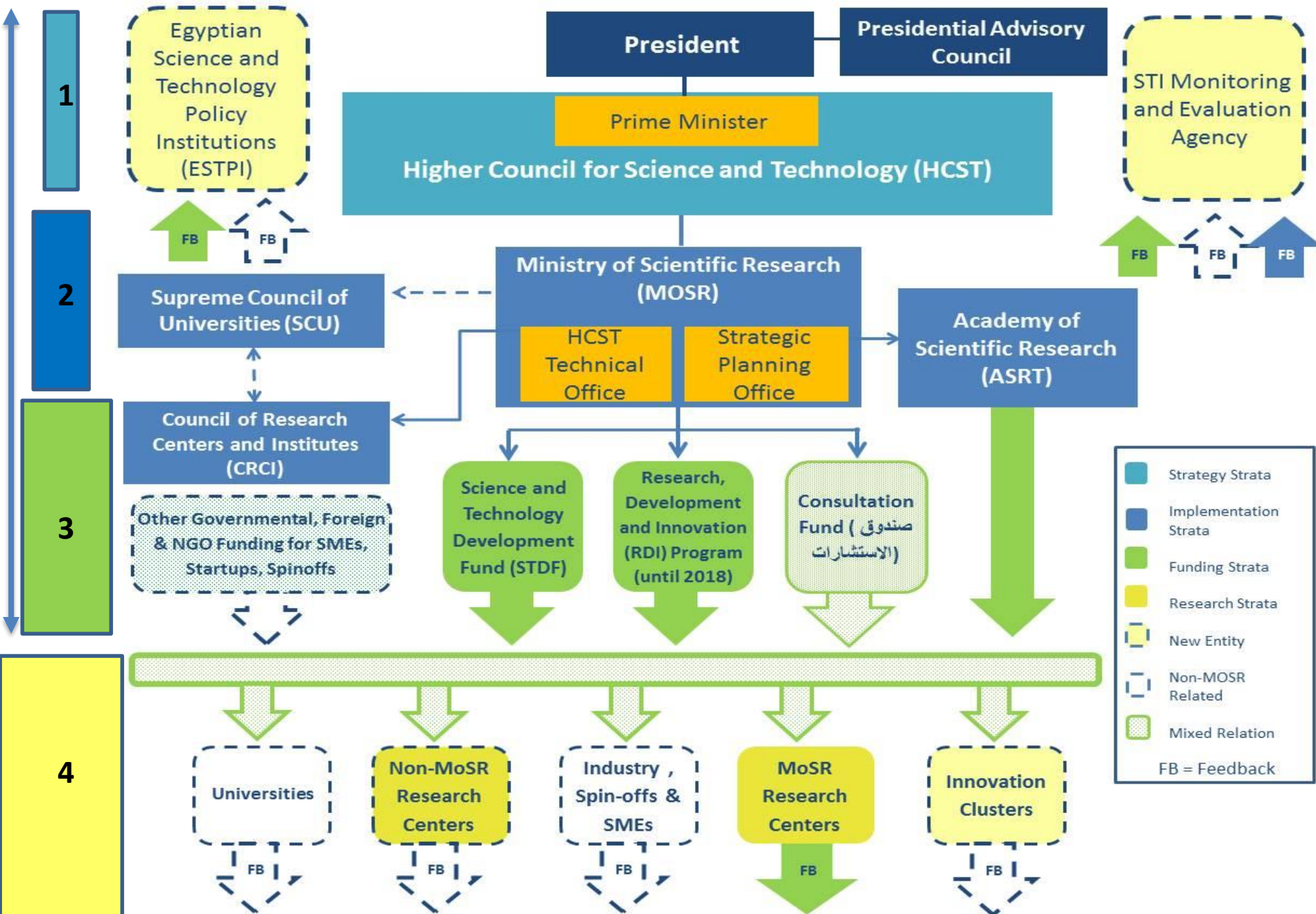
Main Programs:

- Reviewing and improving laws and legislations related to enabling knowledge and innovation

- Adopting a comprehensive program to instill knowledge and innovation culture in the society

- Developing an comprehensive program to encourage SMEs on innovation

- Activating partnership between the State and the public sector for the support and stimulation of innovation

National STI Organogram

Strata levels (left side):
1
2
3
4

President — **Presidential Advisory Council**

Prime Minister

Higher Council for Science and Technology (HCST)

Egyptian Science and Technology Policy Institutions (ESTPI)

STI Monitoring and Evaluation Agency

Ministry of Scientific Research (MOSR)

Supreme Council of Universities (SCU)

HCST Technical Office — Strategic Planning Office

Academy of Scientific Research (ASRT)

Council of Research Centers and Institutes (CRCI)

Other Governmental, Foreign & NGO Funding for SMEs, Startups, Spinoffs

Science and Technology Development Fund (STDF)

Research, Development and Innovation (RDI) Program (until 2018)

Consultation Fund (صندوق الاستشارات)

Universities — Non-MoSR Research Centers — Industry, Spin-offs & SMEs — MoSR Research Centers — Innovation Clusters

FB — FB — FB — FB — FB

FB = Feedback

Legend:
- Strategy Strata
- Implementation Strata
- Funding Strata
- Research Strata
- New Entity
- Non-MOSR Related
- Mixed Relation

Development of Egypt relies on permanently learning generations able to produce and use knowledge	**Vision**
Nurturing enabling environment for STI and improving its capabilities to produce knowledge efficiently and effectively, to increase the rate of growth of the national economy, and to achieve sustainable development of the society and elevate the quality of human life	**Mission**
Enhancing knowledge production and helping other institutions to achieve 80% of food sufficient and deepening of local manufactured products (above 70% local components)	Strategic Objectives
Nurturing Enabling Environment for STI / **Production, Transfer and Localization of Technology**	**Tracks**

Nurturing Enabling Environment for STI

1-STI policies/laws/legislatives
2-Building of scientific base
3- Integrated STI ecosystem
4- Basic & converging sciences
5- Academia/Industry/public Partnership (3P)
6- International Cooperation
7- Science for society

Production, Transfer and Localization of Technology

1-Health   2-Energy   3- Clean water
4-Food and Agriculture
5-Environment   6- Emerging Technologies
7- Strategic Industries (Textile, Pharmaceuticals, Electronics)   8-ICT   9-Education   10-Media
11-Politcal sciences   12-Transportation
13-Tourism   14-Social sciences and Humanities

Pillars

Fund, STI Policies, Follow Up, Monitoring and Impact Assessment

Tools 2714

Outlines of Egypt STI strategy 2030

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About ASRT:

National Academy, established in 1971, 20 specialized research councils, 30 national scientific committees,7regional development centers, 500 fellows and 1800 employees

Vision:

Effective National Academy, cooperates with other entities of STI, to improve scientific and economic status of Egypt

Mission:

Nurturing enabling environment for STI and supporting the complete cycle of innovation

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Innovation: knowledge to Economic Value

Innovation Ecosystem: is more than those elements directly related to ST. It includes economics, political an social institutions affecting innovation such as:

1-National financial system   2-Private Firms
3-Pre-University Education   4-Labor Market
5-Culture   6-Legistaltives
7-Transpernacy   8-Justicise

It is a network of institutions in public and private whose activities and interactions initiate, import, modify and diffuse new technologies.


Trade, Tax & Regulatory Environment

Business System

Innovation Policies
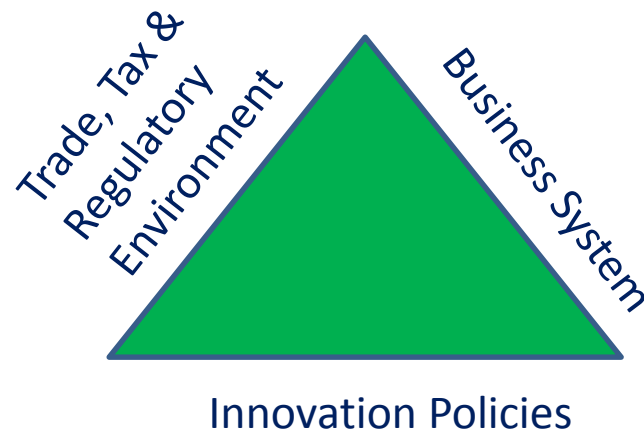
Public, Academia, Industry and Citizens

Model 1
Knowledge Production:
Basic research framed in specific disciplines without interest in practical use, knowledge production first, then knowledge applications (Linear Innovation)

Model 3
Triple Helix (TH)
Collaboration among Academia, Industry and Government
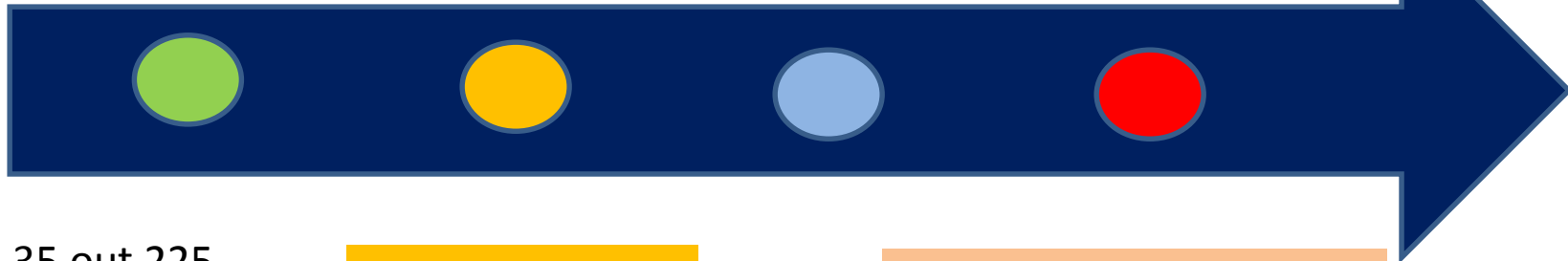
35 out 225
105 out 128

Model 2
Knowledge Production in the context of application (knowledge-based problem solving) Academia/Industry
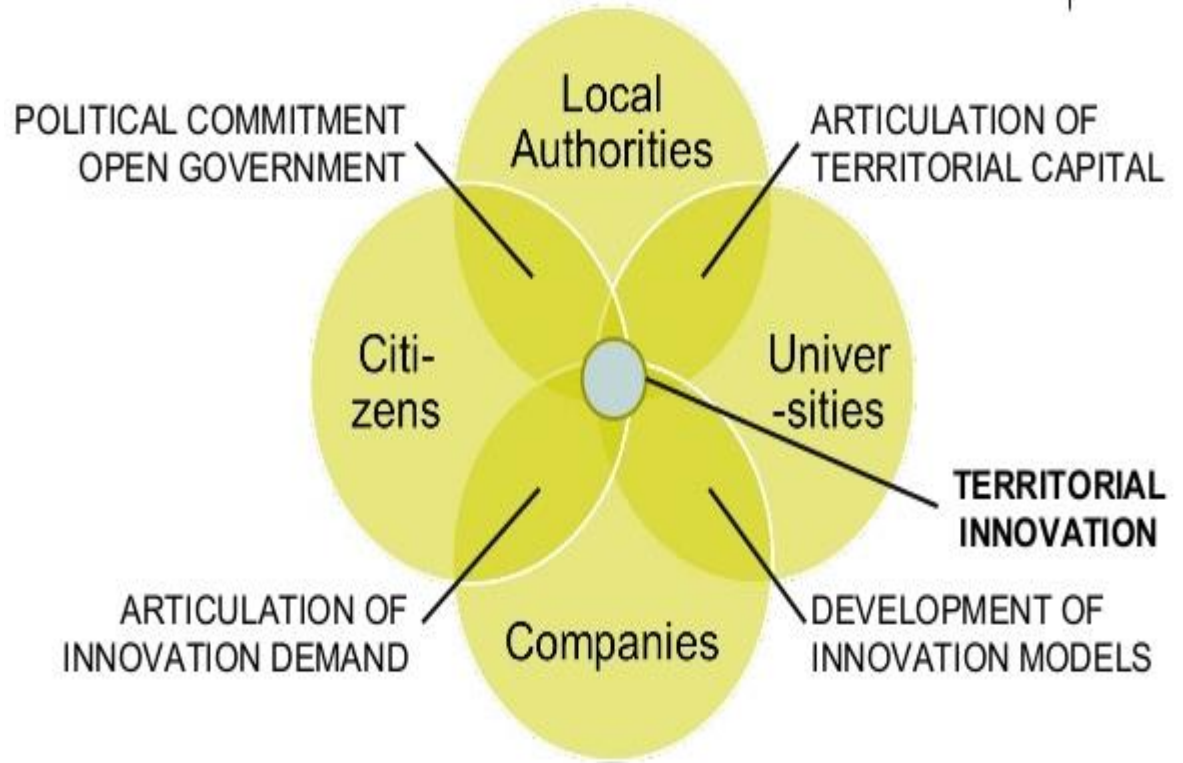
Model 4
Quadrable Helix
Public, Academia, Industry and **Citizens** collaborating together to drive structural changes far beyond the scope of any one organizations could achieve on in it's own

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Quadruple Helix:

Local authorities/Public

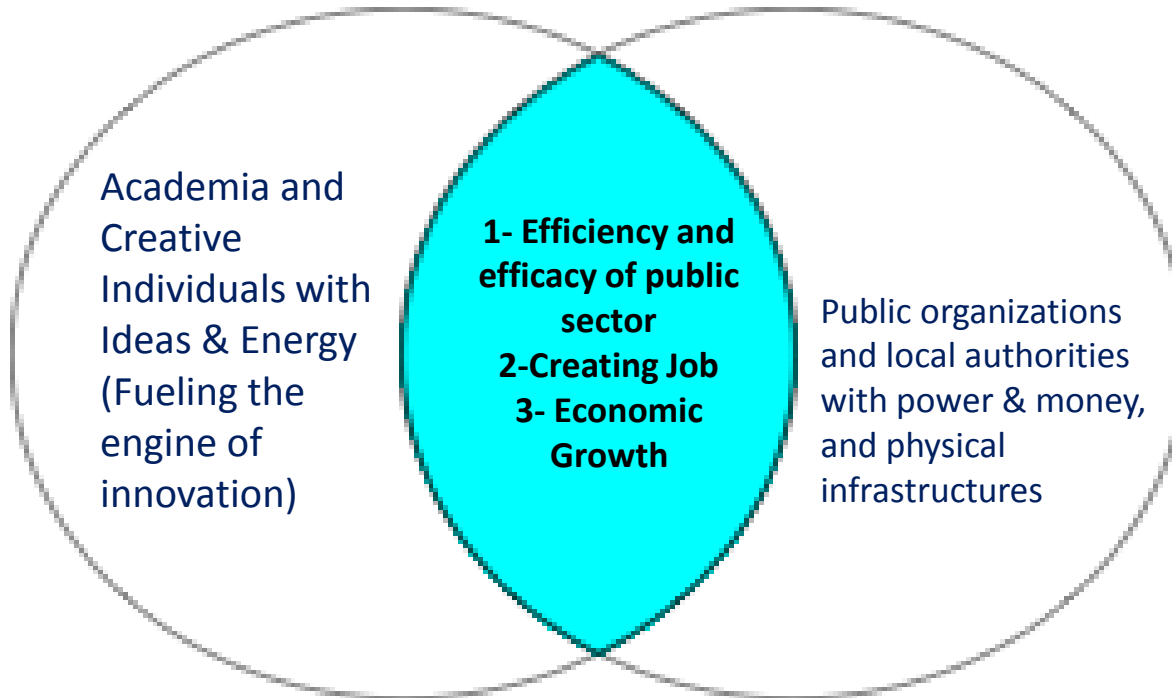Academic/universities

Industry/Companies

Community/Citizen

Public, Academia, Industry and **Citizens** collaborating together to drive structural changes far beyond the scope of any one organizations could achieve on in it's own

POLITICAL COMMITMENT
OPEN GOVERNMENT

Local Authorities

ARTICULATION OF
TERRITORIAL CAPITAL

Citi-zens

Univer-sities

TERRITORIAL INNOVATION

ARTICULATION OF
INNOVATION DEMAND

Companies

DEVELOPMENT OF
INNOVATION MODELS

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Public Innovation:

*Innovations that meet public /government needs

* Innovations that are public in their ends or means

*Public innovation is neither top-down nor bottom up. It involves alliances between the top and the down (Public and Academia)

*Innovation comes from blending ideas from different resources (non linear)

*Framing the right question is half way of finding the right solution

Academia and Creative Individuals with Ideas & Energy (Fueling the engine of innovation)

1- Efficiency and efficacy of public sector
2-Creating Job
3- Economic Growth

Public organizations and local authorities with power & money, and physical infrastructures

Public Innovation

Innovation in government is about finding new ways to enhance lives of citizens, and new approaches to activating them as partners to shape the future together.

Innovation is a strategic pillar of Egypt vision 2030.
In this respect, Ministry of Planning and Admirative Reforming, plays a key role in promoting the modernization of public administration and building administrative capacity in order improve public services and to increase the level of trust. **Success story is Social Subsidiary Digital Card.**

ASRT has undertaken many initiatives in the field of innovation, ranging from innovation grants, social innovation fund (Apply your Idea طبق فكرتك), innovation culture (Exhibitions & TV Programs & Series), National Awards, Technological Incubators to Knowledge & Technological Alliances. In collaboration with different ministries, ASRT has launched new initiatives to provide innovative solutions to stressing problems in local authorities (Border Regions) & Modernizing public administrations in key sectors (Agricultural Subsidiary).

- In this regard, ASRT has established cooperation with the Ministry of Planning in **Governmental Innovation** since 2016. A new axis for public innovation in Cairo Int. Exhibition for Innovations was launched, and innovative ideas from governmental organizations (employees) were evaluated, and presented in the exhibition after two weeks of condensed training innovation and business development.

- The aim of the competition is to **encourage employees to find innovative solutions and implement it to solve administrative problems**

- This **year 85 innovative ideas from employees in government** are submitted and will be presented in the coming 4th Int. Exhibition of Innovation, 22-23 November, 2017.

* Little attention was given to several millions of employees in governmental sector. They   are either marginalized or underestimated. Accordingly, most of them are frustrated and hinder the efforts of reforming. They are not against the country, they feel they are useless and no body need them. I will explain ASRT experience in few minutes

*

ASRT Programs to foster public innovation :

* Lessons from the past indicated that enormous economic growth can be achieved in relatively short time if we provided reasonable fund and created enabling environment for Innovators and Technological Entrepreneurs

* ASRT mandate is to link research outcomes and innovation to public and society needs, and to help in creation of enabling environment for innovation (linear, open, social and public) using new funding mechanisms, incentives, successful partnerships, networks, alliances and in depth analysis of stressing challenges.

البرنامج القومى للحاضنات التكنولوجية
«انطلاق»
National Incubators Program
(INTILAC)

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Proposed new Initiatives to Foster Public Innovations in collaboration with Ministry of Planning

- Creating a public site to host creative ideas for consideration (employees and public submission)… evaluation, discussion…
- E-government technology cluster
- Creating a joint (Ministry of Planning and ASRT) venture team (VT Team) at the ASRT

Innovation is more than just a good Idea! Don't leave it to chance

- The aim of the VT is to make innovations usable through spin-offs and lead them to economic value creation.
- The VT consists of Investment specialists and Marketing experts as well as Lawyers
- The VT will support the researchers by providing support for:
  – Ideation: application Workshop and customer workshop
  – Marketing
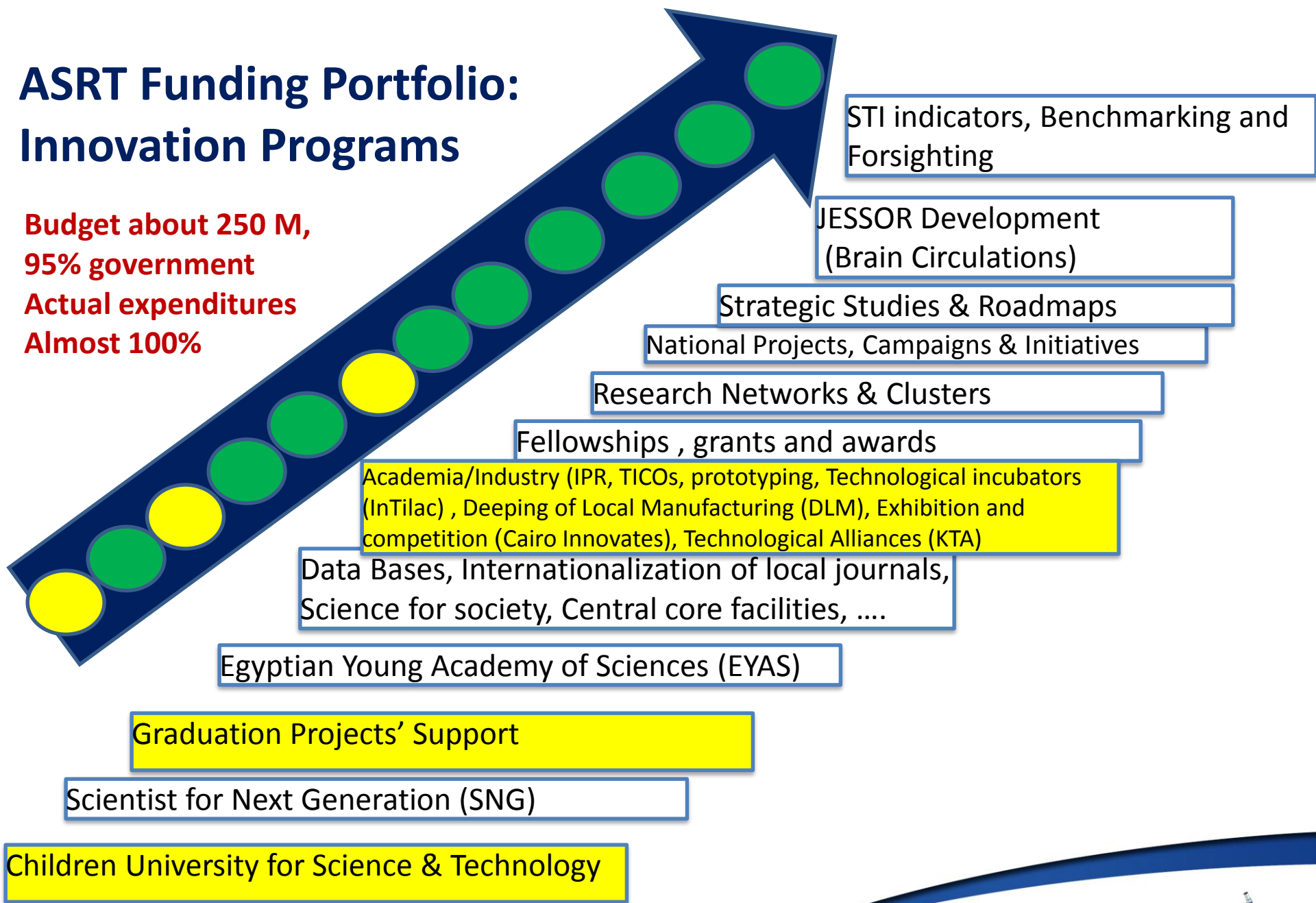 – Legal Founding of a spin-off
  – Management

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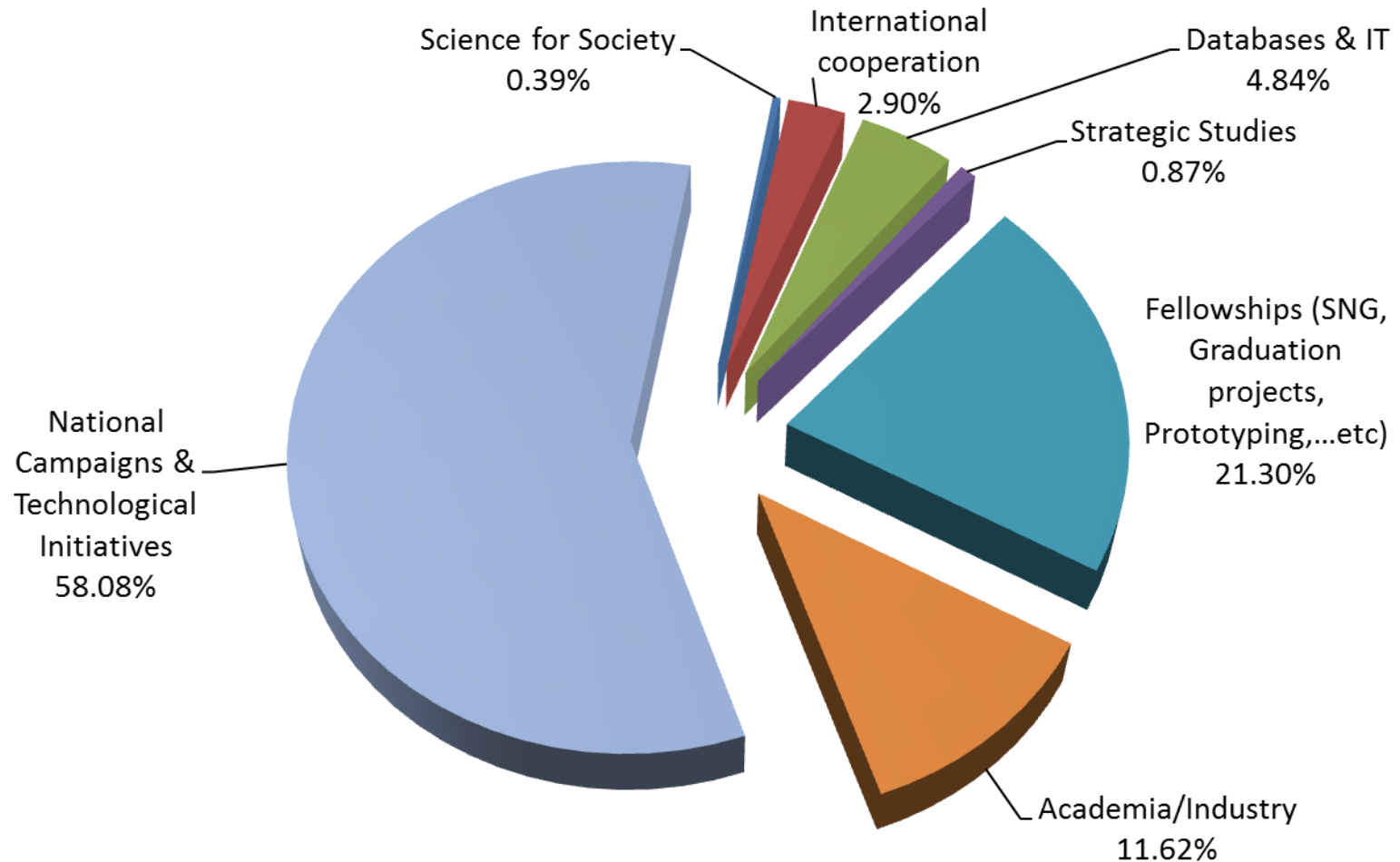أكاديمية البحث العلمي والتكنولوجيا
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ASRT Funding Portfolio: Innovation Programs

**Budget about 250 M,
95% government
Actual expenditures
Almost 100%**

STI indicators, Benchmarking and Forsighting

JESSOR Development (Brain Circulations)

Strategic Studies & Roadmaps

National Projects, Campaigns & Initiatives

Research Networks & Clusters

Fellowships , grants and awards

Academia/Industry (IPR, TICOs, prototyping, Technological incubators (InTilac) , Deeping of Local Manufacturing (DLM), Exhibition and competition (Cairo Innovates), Technological Alliances (KTA)

Data Bases, Internationalization of local journals, Science for society, Central core facilities, ….

Egyptian Young Academy of Sciences (EYAS)

Graduation Projects' Support

Scientist for Next Generation (SNG)

Children University for Science & Technology

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Breakdown of ASRT expenditures

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Academia and Local authorities
Development of rural areas and border regions:
1- Designing, Manufacturing And Operating Of A MOBILE FAB-LAB (Tok-Tok-Fablab)......

Final design

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Academia & Government
(Ministries of Agriculture and Supply)
Food & Agriculture

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Academia & Local authorities (Red Sea)
Mobile unit for water desalination and powered by PV for rural and border areas

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Academia, Local authorities and Society
Small CSP unit for electricity generation and water desalination in rural areas

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Academia and Local authorities
Fridge for production of drinkable water production form air for costal regions

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IV: Start Ups

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New Startups

1- SiloBages

2- Fire Self Extinguisher

3-
جذور dazour

4- Mubser

5- SIMPLEX Arabia

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7-Incentive Care Instrument

6-Green roofs

8-Electronic Wallet

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9- Shala Tea

10: Cairo Innovates
TV program & International Exhibition of Innovation

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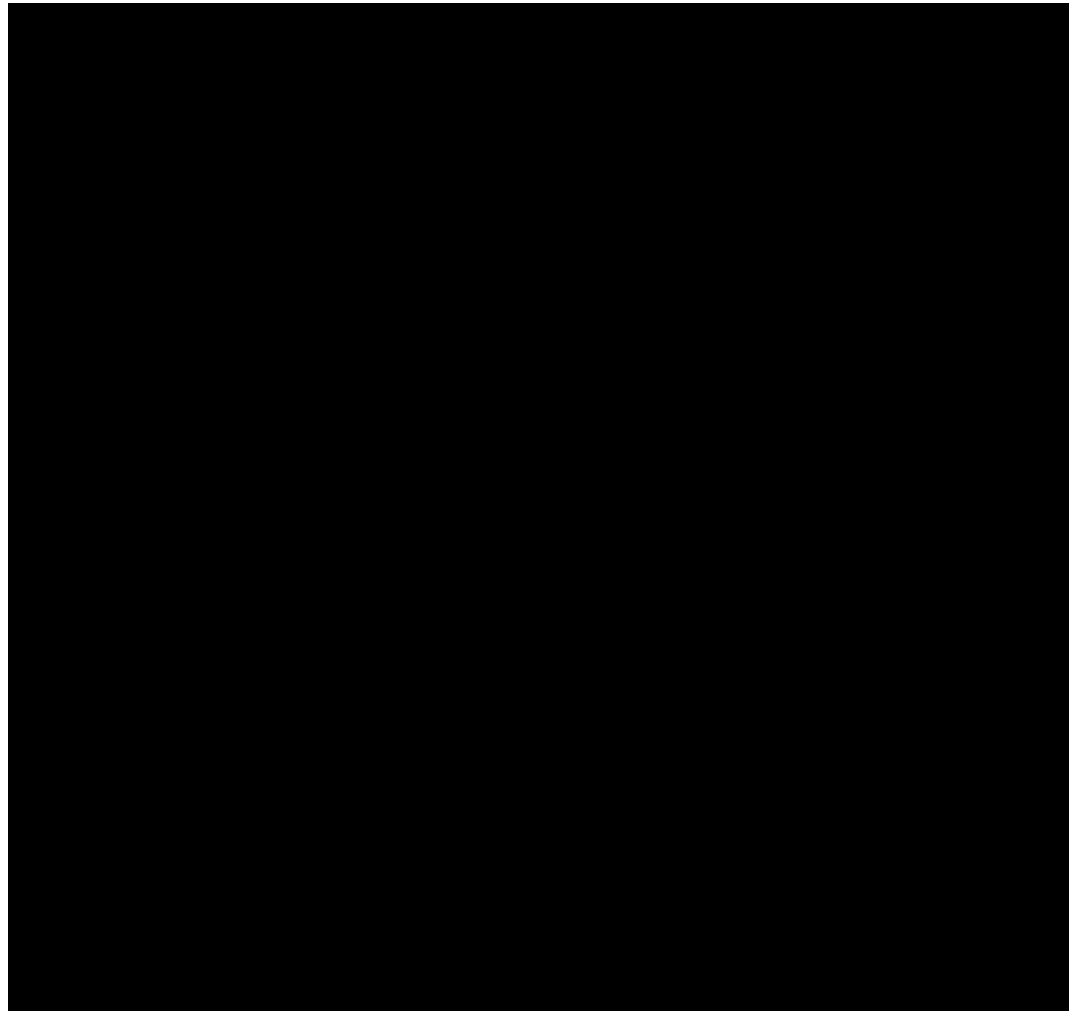
Our target: 50 Technological Start Ups/year
1- First graduation (3 May, 2017)

- Internet of Things (IOT)
- Bio-medical
- Agribusiness
- Engineering
- Augmented Reality (AR) & Virtual Reality (VR)
- Hand Crafts

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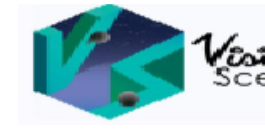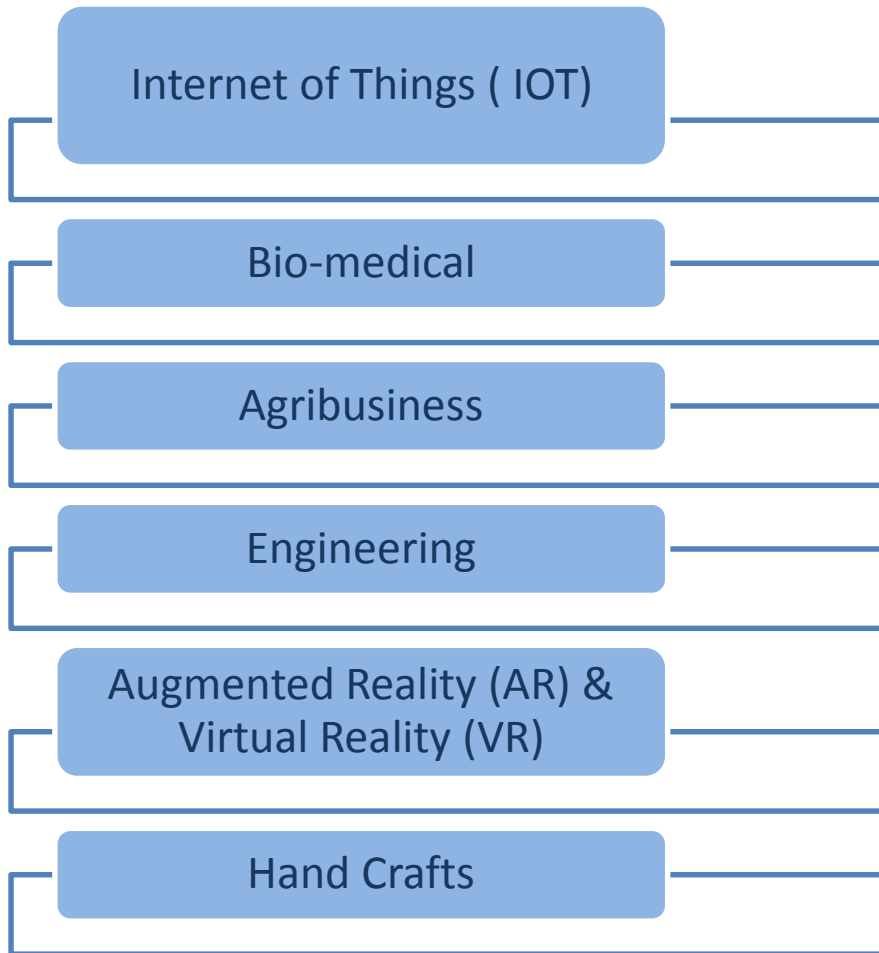
Academia, Government, Industry and society:

Al Azhar Series TV series.mp4

Cairo Innovates TV Program Cairo Innovates TV.avi

Cairo Int. Exhibition Innovations.mp4

Wealth of Egypt: Mangrove trees, South East of Egypt, Red Sea Governorate, Halayib & Shalateen, March, 2015

Thank You

شكرا جزيلا على حسن الاستماع