

# Royal Scientific Society



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## ★ About the Royal Scientific Society

- ★ The Royal Scientific Society (RSS) was established in 1970 by a Royal Decree as a non-profit-organisation (NGO).
- ★ RSS is the largest applied research institution, consultancy, and technical support service provider in Jordan and is a regional leader in the fields of science & technology.
- ★ The RSS laboratories are nationally & internationally accredited with close personal co-operative ties with local, regional, and international scientific organizations.
- ★ Supported by more than 500 science specialists, researchers, technical support staff, highly skilled management, and faculty, the RSS is recognized as a local, regional and international research and development hub.
- ★ RSS has an unwavering commitment to the people of Jordan and strives to improve its standing as a point of reference for scientific knowledge and technical awareness, where quality standards and public health become equal and totally uncompromised.



المعرفة  
Knowledge



المختبرات  
Testing



الجودة  
Quality



تنمية المجتمع  
Outreach



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## ★ RSS Vision & Mission

### ★ RSS Vision

To be the local and regional reference point and knowledge leader for science and technology using scientific and engineering research to power economic development and social progress.

### ★ RSS Mission

To build and strengthen scientific and engineering research in the areas of greatest strategic value to Jordan's long-term competitiveness and development.



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## ★ RSS Core Values

### ★ Customer Focus

Our customers are our partners, meeting and exceeding their expectations is at the core of all our activities.

### ★ Pursuing

We eagerly, proactively, and professionally seek out new opportunities for cooperation & collaboration for the advancement of Science, Technology, and Innovation.

### ★ Accountable

Each and every employee fully understands that working at RSS is a privilege and a responsibility to be embraced

### ★ Team Oriented

Our people understand that only with teamwork can best results be achieved

### ★ Forward Thinking

Thinking positively and progressively with a focus on results, tangible positive outcomes and deliverables are part of the RSS mentality

### ★ Value Based Ethics

Our activities are always balanced and inseparable with our ethical commitments



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# ★ RSS Integrated Activities Matrix



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المعرفة  
Knowledge

Research,  
Consultation,  
& Projects



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Testing

Scientific Analysis  
Public Health & Safety



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Quality

Calibration, Conformity  
& Engineering  
Maintenance



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Public  
Awareness, Training,  
Enterprise Creation, &  
Social Development

Energy, Water and Environment (EWE)

Industrial & Economic Consultation (IEC)

Construction & Urban Planning (CUP)

Information and Communication Technology (ICT) for Development



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## ★ Knowledge Sector

The Knowledge Sector's role is to be the reference point for scientific knowledge and research that best provides data and ideas to solve problems through a unique group of experts with the highest levels of specification and world-class facilities and networks in the environment, construction, industrial technology, and information technology fields.

## ★ National Contribution

Last 5 years contribution:

- ★ Registering **21** patents .
- ★ **7.4%** of total Patents registered in Jordan
- ★ More than **70% of RSS** patents were applied in Nation wide Projects.
- ★ Issuing **63 publications**.
- ★ Issuing over **30 national studies**.



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Knowledge



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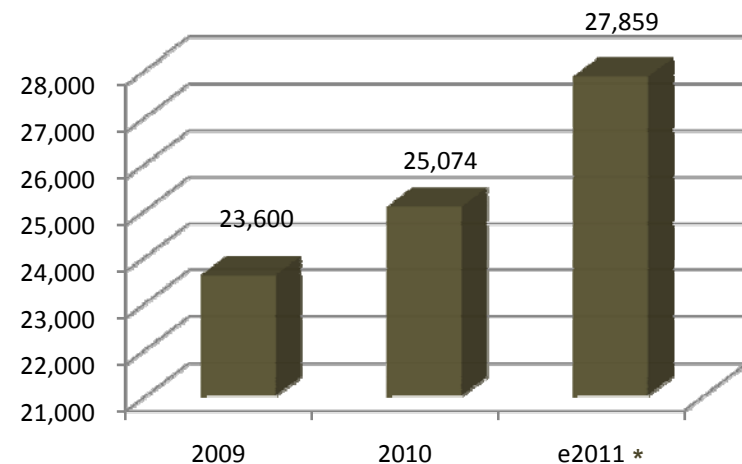
## ★ Testing Sector

The Testing Sector is a leader in providing analytical testing services for the private and public sector. The Testing Sector at the RSS provides a wide scope of chemical and physical testing in food, environment, industrial, mechanical, electrical and construction material, and industrial products. The RSS laboratories are accredited by national and international agencies such as UKAS and JAS according to ISO 17025 in order to produce reliable scientific results for both the private and public sectors.

## ★ Accreditation

- ★ Total Number of Laboratories: 27
- ★ International Accredited Laboratories: 19 (70%)
- ★ National Accredited Laboratories: 26 (96%)

## ★ Performed Tests



\* Extrapolated from Data ending October 2011

Testing



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## ★ Quality Sector

RSS Quality is considered the basis of the Quality Infrastructure in Jordan and it includes: The Jordan National Metrology Institute (JNMI), The Conformity Assessment Centre and The Engineering Maintenance/ Directorate of Bio-medical Engineering.

## ★ National Contribution

- ★ Providing maintenance and calibration service for about 32,000 medical devices, 30 Ministry of Health hospitals, and more than 1000 Medical centres.
- ★ Assisting JFDA in preparing their Quality Manual.
- ★ Supporting Local enterprises to gain CE Marking.
- ★ The only party issuing the (Halal) conformity mark for food products in Jordan.
- ★ Realizing , maintaining and ensuring the traceability of the National Measurement Standards to International Standards.
- ★ Providing metrological and calibration services to reference standards that exist in the national laboratories and to all scientific , industrial and legal sectors.

Quality





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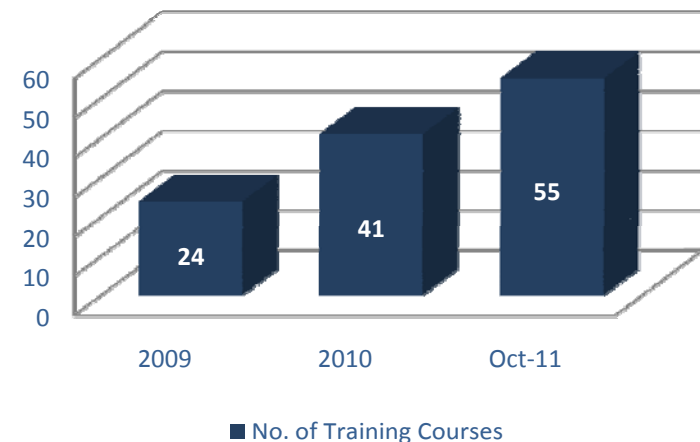
## ★ Outreach Sector

The Outreach Sector exemplifies the heart & soul of all RSS activity with specific programmes dealing with Jordan's community affairs and linking to local industry, education, and international networks on a non-commercial basis. The Outreach Sector fosters a diverse set of activities, initiatives, and programmes such as; The National Campaign for Public Awareness of the Drivers of Change, The Eco Tech Park, The IRADA programme for productivity enhancement, and the Training Centre.

## ★ Training Centre

The training centre is dedicated to supporting the Royal Scientific Society's mission in upgrading the human capabilities and technical skills in Jordan and the region through the diverse programs offered.

## ★ Training Centre in Numbers



Outreach

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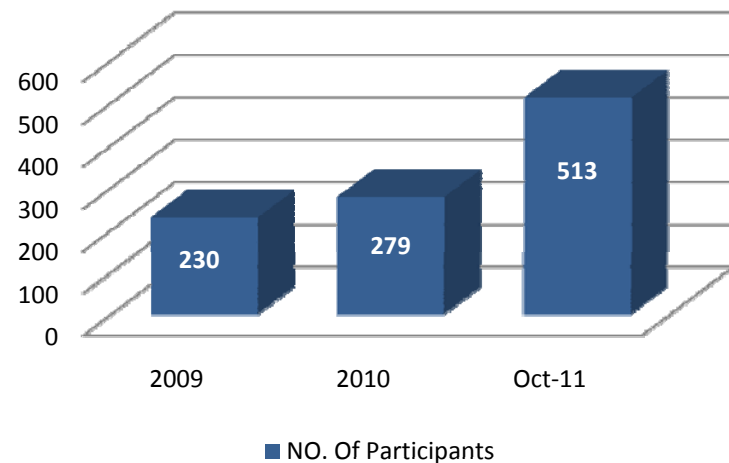
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## ★ Training Centre in Numbers



Outreach

## Slide 10

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MH1

this is not a repeated slide, both charts will appear on the same slide subsequently.

Moammar AlHadidi, 11/22/2011



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## ★ IRADA Programme Achievements

IRADA assists in the establishment of various productivity projects by providing advisory services and technical training to the owners of such projects through IRADA's 22 centres throughout Jordan.

## ★ IRADA Programme in Numbers (2002– 2010)

★ Number of projects established	4,150 project
★ Investment in IRADA projects	JOD 77,657,858
★ Generated Employment Opportunities	13,252 opportunity
★ Training Session conducted by IRADA	2,490 sessions
★ Total number of Training Sessions' Attendees	55,047 attendees
★ Total Governmental Investment	JOD 18,000,000
★ Cost of Generated Employment Opportunity	JOD 1,358



Outreach

## ★ The National Campaign for Public Awareness of the Drivers of Change

- ★ Number of workshops already conducted since October, 2010, in all Governorates **51**
- ★ Number of workshops' Participants **1829**
- ★ Throughout Phase One , the top 25 Drivers of Change that will shape the future of Jordan in the social, technological, economic, environmental and policies areas were identified.
- ★ Besides the top identified 25 drivers of change, outcomes gathered reflect insights into: every citizen's role in exercising **active citizenship**, a **common language and outlook** among citizens regardless of their gender and place of residence, and finally, the **interconnectedness** of all issues that will shape the future of Jordan.



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Outreach



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## ★ The Eco Tech Park

The overall objective of establishing Eco-Tech Park is to contribute to the national and regional efforts in advancing environmental and social sustainability through the advancement of awareness and adoption of clean technologies and sound environmental practices.



## ★ The Eco Tech Park will be

- ★ A place where eco-technologies are developed and exhibited.
- ★ A place for applied research and education on eco-management.
- ★ A think tank for specialized services on integrated resources management.
- ★ A place for exploring renewable energy technologies.

## ★ The Eco Tech Park Components & Activities

- ★ Clean Technologies Exhibition.
- ★ Applied Research.
- ★ Clean Technologies Demonstration and Development.
- ★ Training and Awareness Raising.
- ★ Think Tank.

Outreach

## ★ Energy, Water and Environment

The Energy, Water, & Environment (EWE) Cluster is supported by several nationally and internationally accredited laboratories which are capable of providing high class analysis and measurements. The EWE Cluster provides technical services and consultations in addition to promoting the adoption of sound and best practices conforming to the concept of sustainable development. The EWE Cluster also delivers field energy, water and environmental measurement and analysis services.

## ★ National Contribution

- ★ Energy efficiency labeling for electrical appliances.
- ★ Early Warning System for monitoring of water quality (EMARCU).
- ★ Earth-water Global Mega Watershed Development.
- ★ Real-Time monitoring of air quality system.
- ★ Promoting Cleaner Production concepts on Nation wide scale.
- ★ Online Monitoring of Hazardous Materials.
- ★ Storing hydrogen as source of energy to be used in producing fuel cells.
- ★ Industrial water and waste water treatment
- ★ Conducting water demand management project.



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EWE

## ★ Industrial Technology

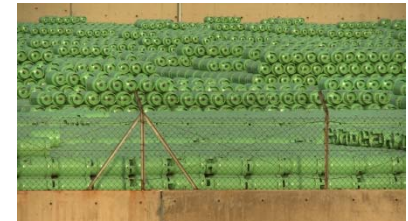
The Industrial Technology Cluster aims to support and institutionalise research and development efforts. The Cluster is dedicated to scientific research, developing industrial related policies, and offering technical consultation within different industries. By boosting inventions, enriching local IPs, and encouraging knowledge transfer the Cluster focuses on meeting and exceeding satisfaction levels across the industry.

## ★ National Contribution

- ★ Minimizing the Corrosion Problems in the Jordanian Food Canning Industry.
- ★ Holding training courses on qualification and certifications for engineers and technicians in the field of NDT and Welding.
- ★ Inspecting and assuring the quality of the liquefied Petroleum Gas (LPG) Cylinders.
- ★ Inspecting the quality of the Egypt-Jordan Natural Gas transportation pipes .
- ★ Producing Bio-Ethanol from Food Industry Waste which could be used in producing bio-fuel.



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## ★ Construction and Materials Science

RSS is the leader in developing inter-related fields of applied research, architectural and structural design, testing, consultations, standard development, seismic analysis, specialised training and facilitating technology transfer. RSS aims to empower economic development through building excellence in local community development as well as establishing, monitoring and upgrading various construction and green building related codes of practice. In addition, RSS plays a pivotal role in the utilisation of knowledge and experience in socially responsible projects.



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## ★ National Contribution

- ★ Issuing Jordan Building Codes and Codes of Practice.
- ★ Drafting Jordan Green Building Codes.
- ★ Thermal Comfort in Building and Reducing Energy Consumption.
- ★ Prepare Building Rating System for Energy Efficiency.
- ★ Mitigation of Earthquake Hazardous in Jordan.
- ★ RSS is a reliable third party for conducting quality assurance tasks for different governmental projects.
- ★ Managing and securing Jordan's architectural heritage through Old Jerusalem & Al-Salt City Documentation Projects.
- ★ Utilising RSS patented building technology systems in constructing more than 100,000 square meters of public schools, clinics, and police stations throughout the kingdom.

## ★ Information & Communication Technology (ICT) for Development

The Information and Communication Technology (ICT) for Development Cluster, is the main technical arm of the Royal Scientific Society, its role is to conduct R&D in ICT yielding to products for commercialisation locally, regionally, and internationally.



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## ★ National Contribution

- ★ Introduced the First Computer to Jordan in 1972.
- ★ Accomplished more than 18 EU projects.
- ★ Assessment of public sector ICT needs.
- ★ Transferring knowledge through training to the public sector.
- ★ Initiating the establishment of the National Information System of Jordan.
- ★ Establishing the first community college for informatics in the region in 1977, which lead to the creation of PSUT.
- ★ Developing unique applications such as:
  - Integrated Hazardous Material Management Solution (IHMMMS) which was implemented in Jordan and Abu Dhabi.
  - Air Quality Management Solution (AQMS)
  - Medical Equipment Solution (MES)
  - E-University Solution
  - Environmental Data Bank Solution (EDBS)
  - E-Vehicle Insurance Solution (EVIS)

## Selected projects applied in 2011



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- Storing Hydrogen as a Source of Energy Using Nanog-rade Materials
- Using The Electrochemical Reaction Engineering, Biotechnology and Solar Cells Technology to Produce Hydrogen and desalinate sea water
- Preparation metallic oxide nanoparticles for enhancing the properties of black pigments of solar collectors
- Preparation of silver nanoparicles as antimicrobial for control of soilborne pathogens.
- Innovation of a Grey Water filter in Gore-DeirAlla Using Jordanian Natural Resources



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## Selected 2011 Projects



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- Bio-ethanol Production from Wastes of Food Industries
- Novel and Modified Mixtures of Concrete and Mortar Using Jordanian Bentonite as Waterproofing and Low Cost Construction Materials
- Design and manufacturing technological line for washing, drying and separating silica sand
- Integrating Jordan into the European Research Area (IJERA)
- Euro-Mediterranean research cooperation on gender and science: SHE Euro-Mediterranean Research Area (SHEMERA)



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## Selected granted patents in 2011



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- A Process for the Production of Metal oxides pigment from Zeolitic Tuff
- Vibrating Dryer
- Cardboard for Concrete Ribbed Slabs
- Development of Timber Framework by using Polystyrene Material



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