

**Under the High Patronage of His Excellency
President Zine El Abidine Ben Ali, President of the Republic of Tunisia**

ICT 4 ALL FORUM -Tunis +4

“ICT Innovation as a Tool for Strengthening Competitiveness and Growth”

Tunisia, 24 – 25 November 2009

FINAL REPORT

ICT 4 All Forum – Tunis + 4, was held in Hammamet - Tunisia, **24 and 25 November 2009** dealing with the theme of «**ICT Innovation as a Tool for Strengthening Competitiveness and Growth** », under the High Patronage of His Excellency Mr. Zine El Abidine Ben Ali, President of the Republic of Tunisia.

ICT 4 All Forum – Tunis + 4, registered the participation of 1800 participants from 52 countries.

The Works of the Forum have been enhanced by the participation of:

- HE Mr. Mohamed Ghannouchi, Tunisian Prime Minister
 - HE Dr. Hamadoun I. Touré, Secretary General, ITU
 - HE Dr. Supachai Panitchpakdi, Secretary General, UNCTAD
 - Professor Soumitra Dutta, Dean of External Relations, INSEAD
 - Mr. Talal Abu Ghazalah, Chairman of UNG@ID
 - Mr. Jean Pierre Ezin, Commissioner of the African Union Commission for Human Resources, Science and Technology
 - Mr. Hedi Djilani, President of UTICA, Tunisia
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- H.E. Mr. Mohamed Jamil B. Ahmed Mulla, Minister of Telecommunications and Information Technology , Saudi Arabia
 - H.E. Mr Mohamed Mohsen al Basiri, State Minister for National Assembly Affairs and Information and Communication, Kuwait
 - H.E Mr. Goundé Désiré Adadja, Minister of Communication and Information and Communication Technology , Benin
 - H.E Dr. Ignace Gatara, Minister in President's Office in Charge of Science, Technology, Scientific Research, and I C T, Rwanda
 - H.E Mr. Lesuron Paghisio Samuel, Minister of Information and Communication, Kenya
 - H.E Dr. Saïdi Kibeya, Minister of Higher Education and Scientific Research, Burundi
 - H.E Mr. Zahawi Ibrahim Malek, Minister of Information and Communications, Sudan
 - H.E Mr. Ing. José Carlos Esteves, State Secretary of Transports and Communications, Guinea-Bissau
 - H.E Mr. Ahmed Cherbini, Vice Minister and Deputy S .G of AICTO, Egypt
 - Mr. Med B Ali Al Wahib, SG of the Ministry of Transport and Telecommunications, Oman
 - Mrs. Samira Abdallah Salem Med, SEC Ministry, Yemen
 - H.E Mrs. Elham Mahmoud Ahmed Ibrahim, Commissioner for Infrastructure and Energy, African Union Commission

- Mr. Adel Al Shared, Vice President Al Maktoum Foundation
- Mr. Kim, Seang-Tae, President / Ph.D. National Agency for the Information Society (NIA), Korea
- Mr. Leon Strous, President of the International Federation (IFIP) Holland
- Mr. Sheriff Seddik, Regional Director of North Africa and Pakistan EastMed, Microsoft
- Mr. Jan Campbell, Vice President CEMA-Ericsson
- Mr. ILkka Hiidenheimo, CEO, Stonesoft
- Mr. Ken Willett, Vice President Hewlett-Packard E M EA
- Jean Luc Beylat, Vice President Systematic International, President Alcatel-Lucent Bell Labs France
- Mme Valérie Layan, Vice President Marketing and Solutions Wireless, Alcatel-Lucent
- Mr. Art Reilly, Director of Technical Standards, CISCO
- Mr. Xavier Bindel, Vice President, JP Morgan
- Mr. Alaa Adli Mustafa, Chief Technology Officer, Huawei Technologies
- Mr. Vincent BOISARD, Vice President competitiveness cluster SCS
- Mr. Bilel Jamoussi, CEO Net Design
- Mr. Michel Denis, CEO Performance Partners Manager - PMP
- Mr. V. Prasad Pingali Rao, CEO, SETU Software Systems Pvt Ltd, India
- Mr. Samir Al Shammah, Regional Director, Middle East INTEL Corp
- Dr. Tim Kelly, Lead ICT Policy Specialist, World Bank
- Mr. Pierre Peladeau, senior international consultant Alain Booze
- Dr. Karim Taga, Managing Director, Arthur D. Little
- Mr. Malik MAAZA, International Cooperation & Africa Desk Officer Director INSTEAD

(See list of forum's guests)

- Representatives of 23 international organizations
- Senior officials from more than 500 Tunisian and foreign companies
- Representatives from 40 media outlets,
- 40 speaker experts.

The Forum has also included the organization of a Technological Exhibition, One to One Meetings and a serie of parallel events, including:

- Information Day on Technological Innovations, by **CISCO**,
- Executive Council meeting of Mediterranean Federation of Internet Associations (**FMAI/ATIM**)
- Workshop on “Cluster Green & Connected Cities”, (**ACIDD/ATIM**),
- Workshop on Measuring the Broadband Economy , (**World Bank/ CSTD-UNCTAD**),
- Conference presentation of the DIGIWORLD 2009 report, (**IDATE**),
 - Meeting of the Joint Experts Group for the 8th African-European Union Strategic Partnership on Science, Information Society and Space, (**CERT/ African Commission / European Commission –IRD France**),
 - Round Table, Join-Med project « Establishing the EU-Mediterranean ICT Research Network », (**CNI /European Community's ICT Program**),
- Workshop on ICT and crisis, (**AICTO**),
 - Seminar on “E-learning on High Technology and Science for Developing Countries Strategy and Synergies”, (International Center for Science and High Technology **UNIDO/Atars'net**),
- Forum “Global Networks for Sharing and Collaboration” (**CERT/ITTP/ITTP/ICU Korea**),
 - Meeting on Financing Mechanisms: Addressing Challenges of ICT for development (**UNGIS - ITU**),
 - Workshop 2 on VPRO Technologies, (**INTEL Corp**),
- Workshop 1 on WIMAX: Changing the game, (**INTEL Corp**),

- Meeting of High Level Committee for Sciences and Technology –Tunisia

A - Opening of the Forum

At the opening of the Forum, Mr. El Hadj Gley, Tunisian Minister of Communication Technologies, delivered a welcoming address to the attention of participants and presented the general program of the forum.

His Excellency, Mr. Mohamed Ghannouchi, Tunisian Prime Minister proceeded to the official opening of the Forum. He recalled that ICT4All Forum Tunis+4 is an extension to the World Summit on the Information Society and should be able to assess the taken steps towards the implementation of WSIS recommendations and decisions as set by the "Tunis Commitment" and "Tunis Agenda" in November 2005.

Regarding the theme of «**ICT Innovation as a Tool for Strengthening Competitiveness and Growth** » for the fourth edition of the forum, the Prime Minister noted that according to the World Bank, an increase of 10 points in broadband subscription density refers to a GDP growth of 1.3 points, including an increase from 10% to 14% of job creation rate. He also recalled that macroeconomic assessments indicate that over 30% of enterprises productivity gains result from investment in ICT, their dissemination and the exploitation of innovative systems. As for progress in telephone density in Africa, he noted that the number of internet users in Africa remained weak, despite efforts to reduce tariffs; they often remain high in developing countries.

He testified that the Tunisian government's commitment into implementing the outcomes of World Summit on the Information Society highlights the importance of ICT as a key lever for of Tunisia's development, which has implemented a specific strategy for the promotion of ICT-based innovations and the country's modernization and integration into the information society.

Recalling the many successful achievements in 2009 (award of a new global telephone license, commissioning a new Tunisia-Europe submarine cable, lower rates of ADSL over 50%), confirmed for 2010 the launch of new major projects including the expansion of technological spaces, Certified training programs in ICT fields with an initial target of 10 000 members of competence certificate, the development of digital content through generalization of the Digital Television in 2014.

Finally, while inaugurating the Forum's works, the Prime Minister stressed the need for governments, regional and international organizations, private sector, civil society and financing institutions to redouble their efforts in developing partnership and experiences exchanges in order to spur investment and innovation aiming at reducing the digital divide.

Other speeches were delivered during the opening session by:

- Dr. Hamadoun. I Touré, for ITU
- Mr. Supachai Panitchpakdi for UNCTAD
- Mr. Talal Abu Ghazalah for UNG @ ID,
- Dr. Sumitra Dutta for INSEAD,
- Mr. Jean-Pierre Ezin for the African Union Commission,
- Mr. Hedi Djilani, for UTICA,

The speakers highlighted the importance of the implementation of WSIS recommendations regarding the use of ICT, particularly through the promotion of policies focusing on the development of innovative technologies and services.

B - Summary of proceedings of the Forum

The Forum was organized around a Special Ministerial Segment and four panels:

• Special Ministerial Segment on the theme: National strategies for innovation, promotion of competitiveness and Growth through ICT,

This panel was moderated by Dr. Hamadoun I. Touré, Secretary General of ITU,

Speakers in this special segment:

- H.E. Mr. Mohamed Jamil B. Ahmed Mulla, Minister of Telecommunications and Information Technology , Saudi Arabia
- H.E. Mr. Mohamed Mohsen al Basiri, State Minister for National Assembly Affairs and Information and Communication, Kuwait
- H.E Mr. Goundé Désiré Adadja, Minister of Communication and Information and Communication Technology , Benin
- H.E Dr. Ignace Gatere, Minister in President's Office in Charge of Science, Technology, Scientific Research, and I C T, Rwanda
- H.E Mr. Lesuron Paghisió Samuel, Minister of Information and Communication, Kenya
- H.E Dr. Saïdi Kibeya, Minister of Higher Education and Scientific Research, Burundi
- H.E Mr. Zahawi Ibrahim Malek, Minister of Information and Communications, Sudan
- H.E Mr. Ing. José Carlos Esteves, State Secretary of Transports and Communications, Guinea-Bissau
- H.E Mr. Ahmed Cherbini, Vice Minister and Deputy Sec Gen of AICTO, Egypt
- H.E Mrs. Dr. Maua Daftari, Deputy Minister of Science, Technology and ICT, Tanzania
- H.E Mr. Daan Du Toit, UE Minister Counselor of Science and Technology, South Africa
 - H.E Mrs. Elham Mahmoud Ahmed Ibrahim, Commissioner for Infrastructure and Energy, African Union Commission

This Special Ministerial Segment has presented national experiences on policies for the promotion and dissemination of ICT and the impact already observed or expected on the competitiveness of the concerned countries.

• Panel 1: Using ICT for innovation and growth: Trends and Best Practices

This panel was moderated by Dr. Sumitra Dutta, Dean of External Relations at INSEAD and submissions by: Kim, Seang-Tae, Ilkka Hiidenheimo, Ken Willett, Art Reilly, Tim Kelly, Samir Al-Shamma, Alaa Moustafa Adly, Sheriff Seddik and Mohamed Amine Dhaoui.

This panel allowed participants to review the impact of financial crisis on the ICT sector by illustrating their remarks with regard to the situation in their respective countries. Nevertheless, they all emphasized that compared to other sectors; the latter was less affected by this crisis. Finally, they noted that the ICT sector show encouraging signs of recovery although some uncertainties remain about the end of the crisis.

The panel also discussed the role of ICT as a stimulus to economic activity growth.

Increased use of new technologies allows productivity gains, stimulating efforts for development-research

and contributes to capacity building. These effects contribute to accelerate the transition to an information society based on innovation and creativity.

Participants also stressed the need to include the development of ICT use in a strategy of sustainable economic development.

Many participants stressed the importance of public-private partnerships in the development of infrastructure in order to support the constant technologies and services changes. Discussions also focused on the need to broaden the scope of information and communication technology employment that should, as stakeholders, take better account of economic, environmental and social aspects:

- At the Economic Level, convergence is a vector for growth and innovation and it is a source of job creation.
- On the environmental front, the effective use of information and communication technology contributes to the preservation of the environment, optimizing energy consumption and reducing emissions of gas.
- In the social sphere, ICT can meet new social needs especially in terms of education, health and e-Government.

Finally, the participants agreed that international organizations should actively participate, along with the developing countries, in the implementation of strategies for emerging economies to have a real potential for skills and innovation.

The panel participants specifically recommended to:

- Develop ICT infrastructure
- Encourage innovation in services,
- Use ICT to optimize energy consumption and to fight against the effects of climate change,
- Encourage innovation in developing ICT applications and content,
- Adapt regulatory frameworks to the requirements of innovative technologies,
- Encourage public / private partnerships for ICT development,
- Revise the downward of the tariffs of services and terminal equipments
- Strengthening human resource
- According priority to the dissemination of ICT in education.

Panel 2: Technology offers and innovative services: Sustaining entrepreneurship, financing, cluster , training

This panel was moderated by Mr. Montassar Ouaili, CEO of Tunisia Telecom and interventions made by Jean Luc Beylat, Mehendi Guiddir Khaled Mehiri, Robert Feige, Karim Taga, Anthony Vonsee, Graziano Bertogli and Paul Cunningham.

Throughout this panel discussion dealing with “Technology offers and innovative services”, speakers stressed the need to focus innovation efforts in the ICT sector on capacity building in terms of human resources. Such efforts require the development of training (initial and continuous) especially certificated trainings, to better answer the demands of productivity and competitiveness resulting from the financial crisis.

Innovation should be, according to panelists, at the heart of clusters’ concerns of which they must adopt a segmented approach. These clusters should be part of the training and the creation of spaces for the

dissemination and sharing of information and know-how to transfer skills and creating centers of excellence.

The panel also stressed the importance of strengthening collaborative efforts between industry and research, particularly in terms of economic market mechanisms and the development of technological systems.

Industry players are expected to contribute effectively to the accompaniment of users eager to effectively appropriate innovations.

The means to ensure sustainable growth of companies operating in ICT have also been discussed by the panel. Participants felt that they must rely on appropriate funding mechanisms for actions of entrepreneurship in the ICT field.

Emphasis was also placed on the need to provide funding for specialized structures in the management of skills and innovative ICT projects. Furthermore, participants in this panel stressed the importance of achieving the cooperation strategies between different stakeholders (governments, multinationals, SMEs, development agencies, banks, business angels ...). These strategies must focus on models and patterns of investment financing of innovative ICT projects. This should help to consolidate and strengthen the ICT sector through competent skills that can meet the challenges of innovation and scientific research.

As conclusion of the panel, participants specifically recommended to:

- Build on the training of human skills as a pillar of innovation in promoting distance learning and by focusing on knowledge transfer,
- Basing innovation on improving the quality of education in ICT in order to create expertise and support innovation,
- Encourage clusters to innovate through the creation of environments for sharing and exchange of generalized information and know-how,
- Provide the ICT field with the appropriate funding,
- Strengthen the cooperative relationship between industry and research to support innovation and creativity in this area and ensure a transfer constructive knowledge,
- Promote cooperation relations and interaction both nationally and internationally in the field of IC
- Adapting the national regulations in order to promote the development of networks and innovative services,
- Create a fund to finance start ups operating in the field of ICT.

• Panel 3: Efficiency of public policy action: policies and innovative approaches, public private partnership

This panel was moderated by Dr. Tawfik Jelassi, Dean of the Ecole Ponts et Chaussées de Paris and interventions made by : Ka Ita Vemuri, Salma Abbasi, Leon Strous, Kais Sallemi, Makane Faye, Nazeh Ben Ammar, Vincent Boisard .

Participants stressed the importance of developing innovative long term public strategies to take advantage of ICT for sustainable economic growth, generating added value. These strategies must address multiple components, mainly infrastructure, equipment, practices development, etc...

The panel was an opportunity to share with all participants international experiences, as well as best

practices and public policies and approaches adopted in ICT sector to ensure sustainable development for economies.

Panelists discussed the role of public authorities to reform market failures and to create an appropriate legal and regulatory environment, encouraging businesses to invest in socio-economic projects such as innovative education and health. Based on their experiences, the panelists have shown positive effects of the introduction of information and communication technology within government in terms of increased productivity and growth.

The public-private partnership (PPP) for the financing and management of various public services relating to the ICT sector has been highlighted and must be implemented by focusing on innovative and original approaches.

At the end of the panel, participants specifically recommended to:

- Establish realistic national plans for ICT which focus on joint efforts of both public and private partnerships and the role of civil society for a long-term success,
- Promote cross-public partnerships for the promotion and innovation in ICT,
- Enlist the private sector to establish huge innovative projects and further develop contribution of the local private sector,
- Giving special importance to the strengthening of entrepreneurship in the ICT sector
- Strengthening education in ICT courses through the development of professional certificated training programs,
- intensifying the funding of scientific research programs.

Panel 4: Digital Infrastructure: Broadband fixed and mobile regulatory environment, next generation network

This panel was moderated by Mr. Yves Gassot, DG, IDATE communications made by : Valerie Layan, Xavier Bindel, Torbjorn Fredriksson, Mehdi Djebbar, Pierre Peladeau, V. Prasad Rao Pingali, Mehdi Khemiri, Michel Denis.

During this panel, speakers at first welcomed the remarkable success of emerging countries over the past decade on development of mobile telephony.

These countries must now support the federation of networks (with the emergence of networks called NGN) and the convergence of services, especially with the advent of applications and uses more and more demanding in terms of bandwidth to support the traffic generated by heavy applications (multimedia, video ...). As a result, new ultra-high-speed broadband networks must be deployed.

In this context, participants stressed the need to establish fiber optic networks and mobile broadband 3rdG or 4th G.

For the mobile broadband, it represents, according to participants, an alternative for rural and inaccessible areas that can through this service benefit from broadband access under the same conditions as other users.

Panelists have also emphasized the role of public investment in the development of mobile broadband.

Thus, participation of local communities in the implementation and financing of these networks should be promoted.

At the end of the panel, participants specifically recommended:

- Changing regulatory frameworks which promote convergence, investment and development of competition,
- Finding ways to provide adequate broadband solutions across 3rd G and 4th G (LTE)
- Strengthening access networks in the technology centers and around universities,
- Promote competition through infrastructure while encouraging all forms of effective pooling and sharing of infrastructure (passive and active) and capacities among operators.

C - Closure of the work

At the closing ceremony and after submission of the final report and the results of the ICT 4 ALL Forum-Tunis+ 4 in a plenary session in the shape of "Recommendations of the Forum", the Minister of Communication Technologies - Tunisia has concluded the work of the Forum by expressing his appreciation for the important recommendations that were issued within the various panels. He expressed confidence that these recommendations will undoubtedly enrich the national and regional approaches to build the information society.