

Leveraging ICT to Create Employment Opportunities

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PRESENTATION OUTLINE

Presentation Outline

- Introduction
- An Opportunity: ICT Services
- The Caribbean Experience So Far...
- A “New” Approach
- Target the Right Opportunities
- Conclusion

INTRODUCTION



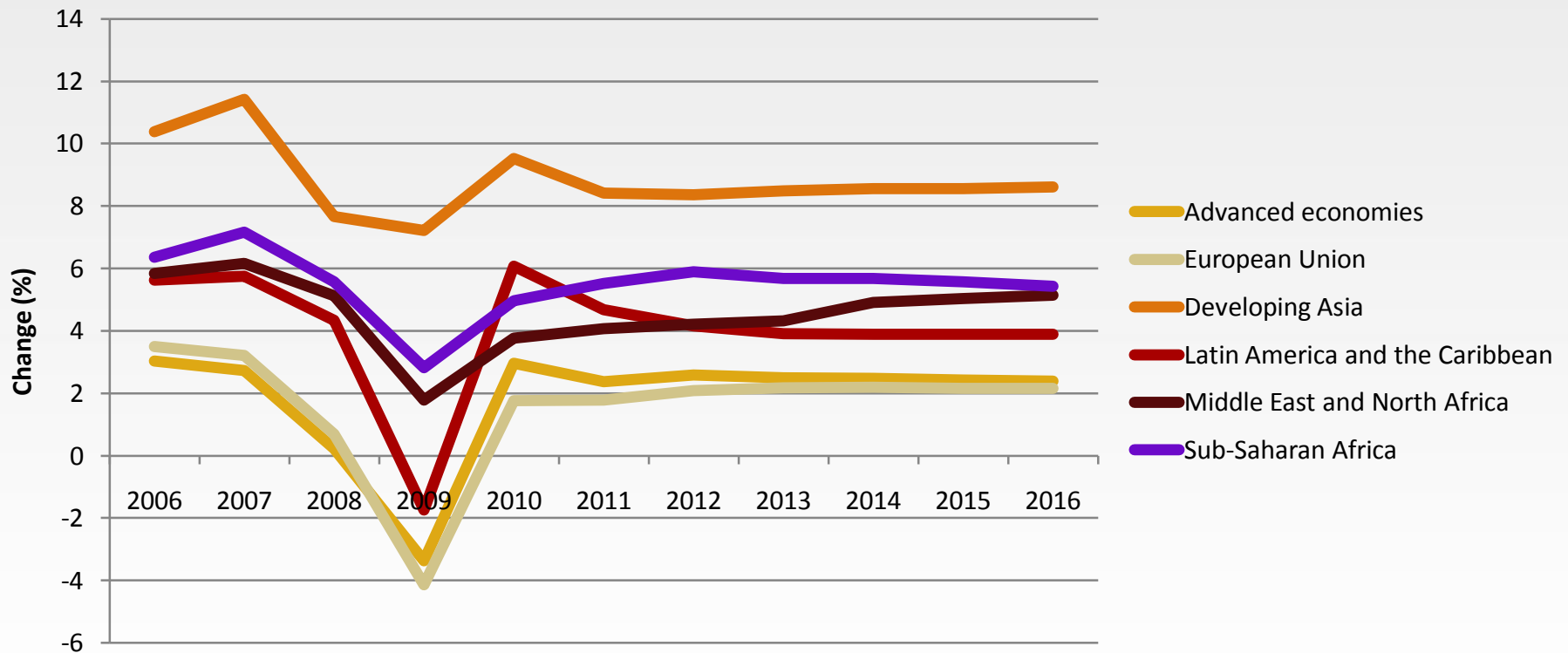
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Global Outlook

Global Change in Annual GDP Growth Rates

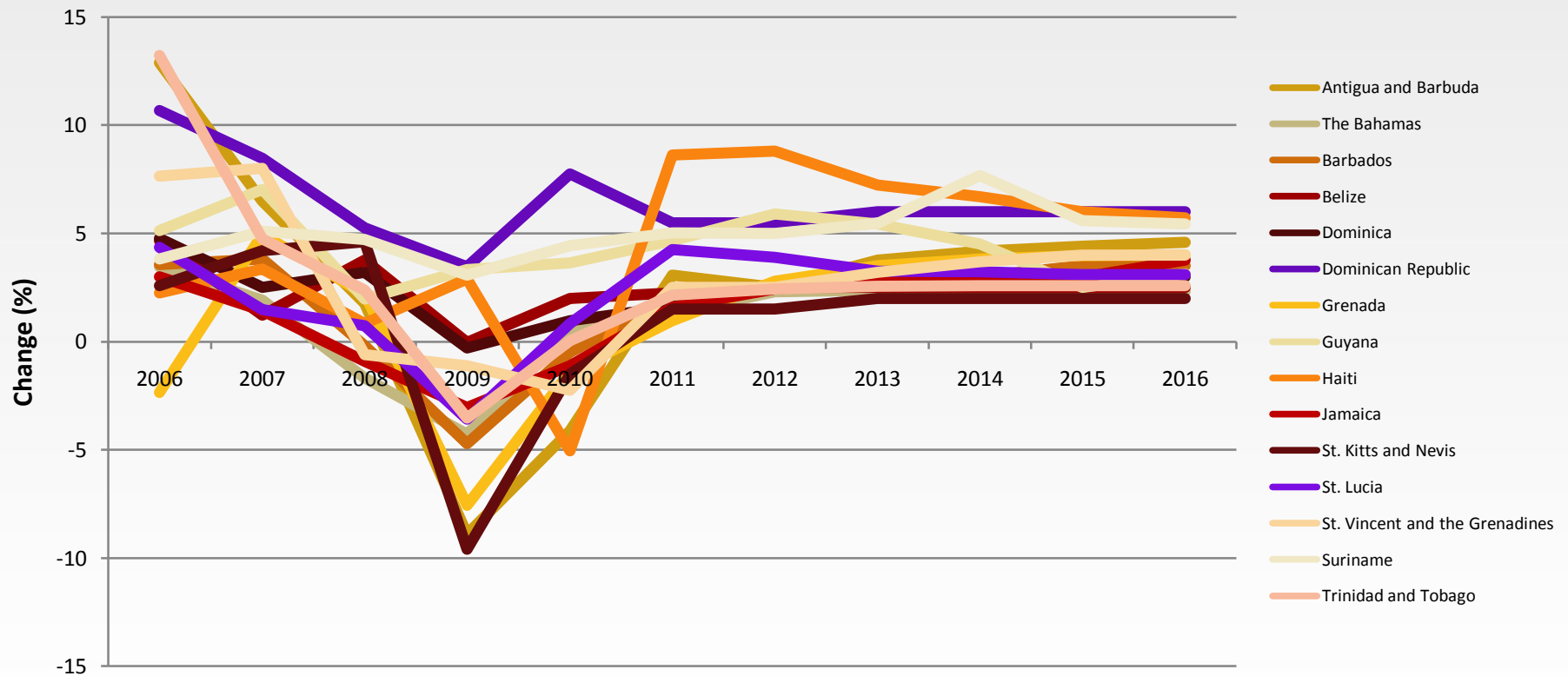
Source: International Monetary Fund, World Economic Outlook Database, April 2011



Caribbean Outlook

Caribbean Change in Annual GDP Growth Rate

Source: International Monetary Fund, World Economic Outlook Database, April 2011



AN OPPORTUNITY: ICT SERVICES

What is the ICT Sector?

Definition: The Information, Communication Technology sector (ICT) is defined by the OECD in terms of the following ISIC Rev. 3.1 classes:

Manufacturing

3000 – Office, accounting and computing machinery

3130 – Insulated wire and cable 3210 – Electronic valves and tubes and other electronic components

3220 – Television and radio transmitters and apparatus for line telephony and line telegraphy

3230 – Television and radio receivers, sound or video recording or reproducing apparatus, and associated goods

3312 – Instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process equipment

3313 – Industrial process equipment

Services

5151 – Wholesale of computers, computer peripheral equipment and software

5152 - Wholesale of electronic and telecommunications parts and equipment

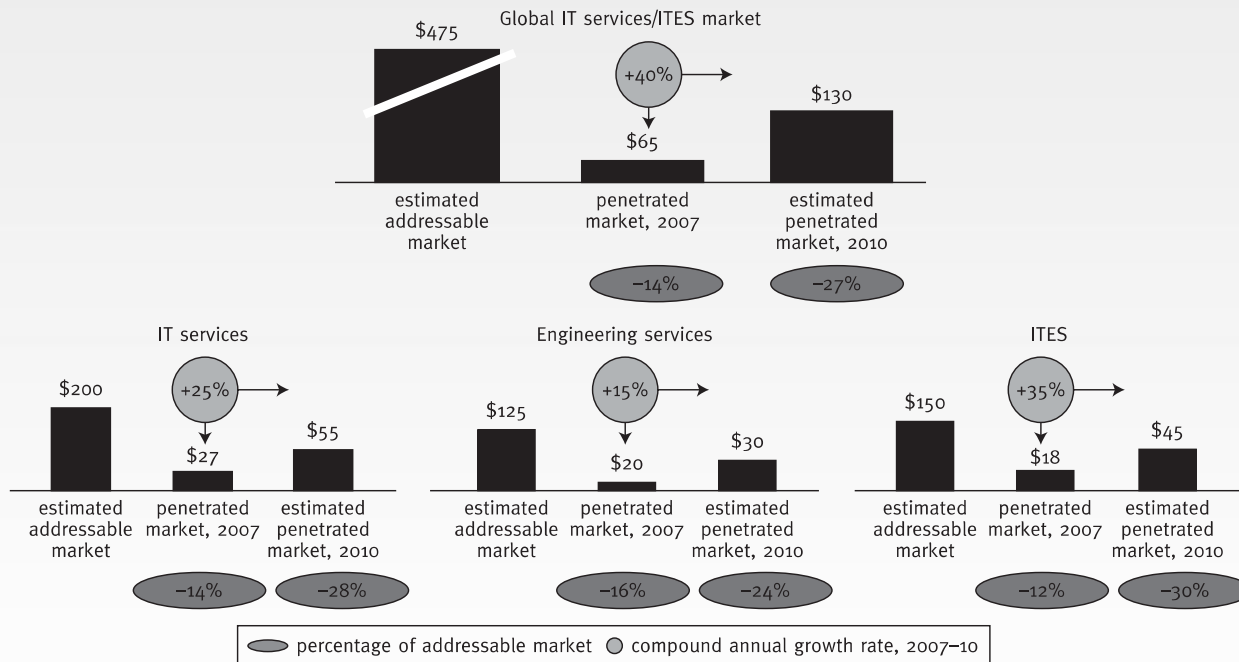
6420 - Telecommunications

7123 - Renting of office machinery and equipment (including computers)

72 - Computer and related activities.

Global ICT Service Sector

Figure 1 Global Opportunities for IT Services and ITES
US\$ billions



Source: Computed from McKinsey & Company 2008 consultancy inputs.

Note: According to NASSCOM (2009), the addressable market for global sourcing of IT services and ITES was \$500 billion in 2008. The broken first bar reflects the fact that it is not drawn to scale.

ICT Service Sector

Table 1 A Typology of IT Services and ITES

	IT services	IT-enabled services
Application services	Engineering services	Business process services
Application development and maintenance	Manufacturing engineering	Horizontal processes
■ Application development	■ Upstream product engineering	■ Customer interaction and support (including call centers)
■ Application development integration and testing	- Concept design	■ Human resource management
■ Application maintenance	- Simulation	■ Finance and administration
	- Design engineering	■ Supply chain (procurement logistics management)
System integration	■ Downstream product engineering	
■ Analysis	- Computer-aided design, manufacture, and engineering	Vertical processes
■ Design	- Embedded software	■ Banking
■ Development	- Localization	■ Insurance
■ Integration and testing	■ Plant and process engineering	■ Travel
■ Package implementation	Software product development	■ Manufacturing
IT infrastructure services	■ Product development	■ Telecommunications
■ Help desks	■ System testing	■ Pharmaceuticals
■ Desktop support	■ Porting ^a /variants	■ Other
■ Data center services	■ Localization	
■ Mainframe support	■ Maintenance and support	Knowledge process outsourcing
■ Network operations	■ Gaming	■ Business and financial research
Consulting		■ Animation
■ IT consulting		■ Data analytics
■ Network consulting		■ Legal process and patent research
		■ Other high-end processes

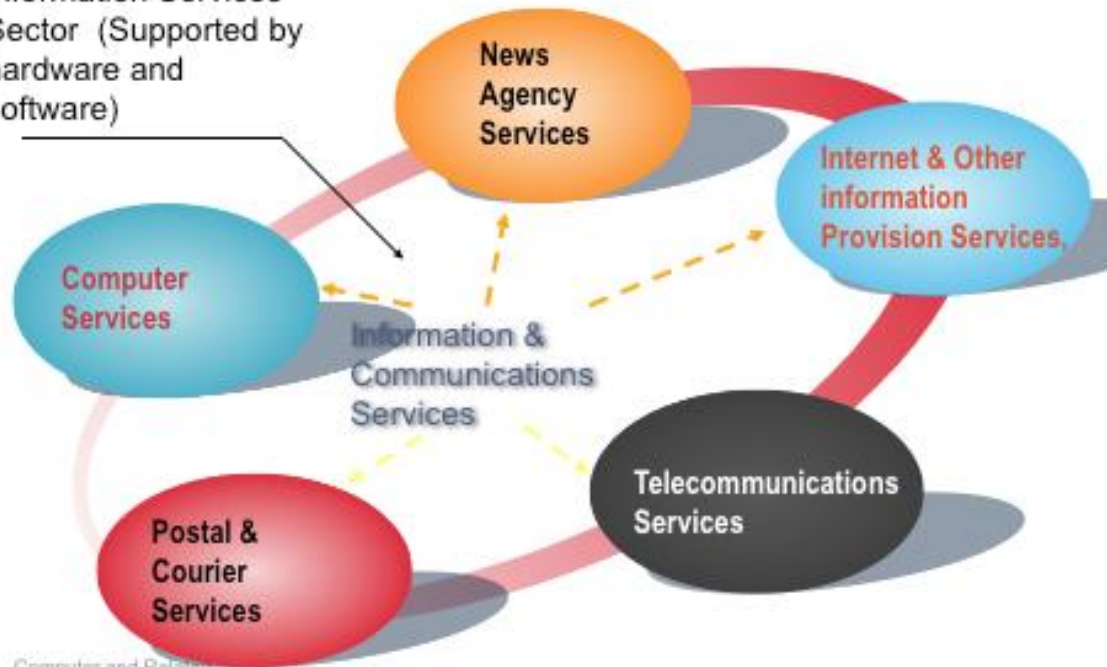
Source: Adapted from BPAP 2007.

a. Porting is the process of adapting software to run on a different computer and/or operating system.

ICT Service Sector

Defining ICT Services Sector

Information Services Sector (Supported by hardware and software)



Computer and Related Services/ CRhone

THE CARIBBEAN EXPERIENCE SO FAR...



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The Caribbean Experience So Far...

Advantages

- Favourable location (proximity to North America and emerging Latin American Markets)
- Universal Education

Strategies

- Low-end ICT Clusters
 - Call centres
 - Free trade zones (FTZs) and technology parks

● Experience

- Significant upfront investments
- High employee turnover with limited skills development
- Limited economic impact

The Current State of Affairs

- Embryonic e-Government and e-Health
- Limited adoption by Small and Medium Enterprises (SMEs)
- Insignificant e-commerce
- Limited use by the citizenry, lack of empowering applications (IM, purchasing, social media)
- Little software development
- Little social, economic or cultural impact on the majority

Adapted from the presentation: *"Building the Caribbean ICT sector Elements from and for a regional perspective, CARIFORUM -EU BUSINESS FORUM, Barbados, Nov. 24th 2007"* presented by Yacine Khelladi, Regional ICT Networking Consultant

A “NEW” APPROACH



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To Grow the ICT Sector You need...

Infrastructure Framework	Human Capacity
A core communications and technology network infrastructure, with relative ubiquity of access, capacity and “low” cost.	Establishment of a critical mass of knowledge workers, with emphasis on technical skills
Policy Framework	Enterprise (Legal Framework)
Support of a transparent and inclusive policy process and strengthening institutional capacity to implement and enforce policies	Improving access to financial capital, facilitating access to global and local markets, enforcing appropriate tax and property rights regimes, enabling efficient business processes, consumer protection, privacy protection and stimulating domestic demand for ICT. Transparency and predictability of regulatory implementation, rule of law

Adapted from “PROSPECTS for CARICOM SERVICES EXPORTS IN INFORMATION AND COMMUNICATIONS TECHNOLOGY: Trade and Investment Issues”, April 2003

Challenges We Face...

Infrastructure Framework	Human Capacity
<p>Relatively high rates for Internet connectivity</p> <ul style="list-style-type: none">• <i>Liberalization</i>	<p>Limited tertiary enrollment</p> <ul style="list-style-type: none">• <i>Demand-driven training programmes</i>• <i>Increased use of distance learning technologies – CKLN/C@ribNET</i>• <i>Trade associations</i>
Policy Framework	Enterprise (Legal Framework)
<p>Lack of harmonization</p> <ul style="list-style-type: none">• <i>HIPCAR Project</i>	<p>Limited support services and access to growth capital</p> <ul style="list-style-type: none">• <i>Business incubators</i>• <i>Trade associations</i>• <i>Business networks</i> <p>Limited support for electronic documents, electronic transactions and digital signatures</p>

TARGET THE RIGHT OPPORTUNITIES



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Match Our Resources to The Opportunities

- Resources
 - Medium-skilled workforce
 - Small and dispersed economies
 - Proximity to the Americas
 - Cultural-based products and services

Leveraging ICT in Existing Businesses

- **Communicating with customers and implementing a forward integration strategy.**
- **The benefits of ICT in communication are important in manufacturing.**
- **Improving logistics and efficiency.**
- **Making distance irrelevant**
- **Understanding and improving competitive positioning**
- **Governments are also using ICT to enhance transparency and efficiency.**

Leveraging ICT in Existing Businesses

The ICT-Enabled Value Chain

Inbound Logistics <ul style="list-style-type: none"> Cheaper and faster communication with suppliers through Supply Chain Management 	Operations/ Manufacturing <ul style="list-style-type: none"> Improve Inventory Management systems Enterprise Resource Planning software Rapid Prototyping and Manufacturing programmes 	Outbound Logistics <ul style="list-style-type: none"> Easier to link to global supply chains and outsourcing opportunities 	Marketing and Sales <ul style="list-style-type: none"> e-Commerce e-Marketing through websites 	After-sale Service <ul style="list-style-type: none"> Customer Relationship Management software 	
Firm Infrastructure (Finance, Planning) <ul style="list-style-type: none"> Better accounting and financial management practices Improved communication between different departments through the intranet Better grasp of business trends and market prices through easier access to information Use models to enhance business planning capabilities 					
Human Resource Management <ul style="list-style-type: none"> e-Learning for employee training 					
Technology Development <ul style="list-style-type: none"> Better Knowledge Management within the firm Integrate different software platforms through Enterprise Application Integration 					
Procurement <ul style="list-style-type: none"> Use e-procurement for cheaper and faster communication with suppliers 					

Margins

Source: Small and Medium Enterprises and ICT, Vadim Kotelnikov, 2007

Local Opportunities

Consumer commodities

- High competition on price
- No economies of scale

Mobile Commerce (m-Commerce)

- Localized service delivery

Content

- Education
- Digital entertainment

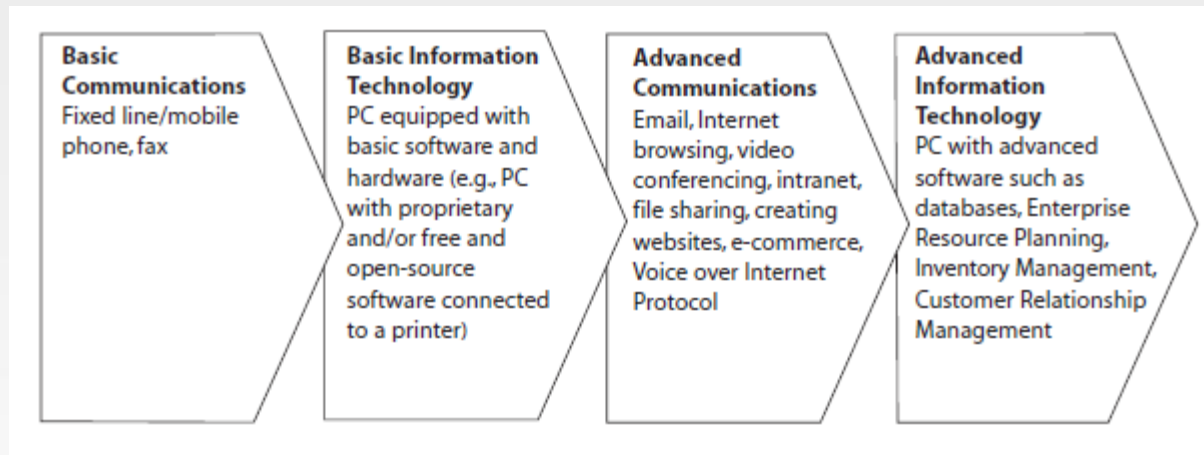
Government/Public Sector

- Specialised services: applications, business process re-engineering

Adapted from the presentation: *"Building the Caribbean ICT sector Elements from and for a regional perspective, CARIFORUM -EU BUSINESS FORUM, Barbados, Nov. 24th 2007"* presented by Yacine Khelladi, Regional ICT Networking Consultant

Local Opportunities

ICT for SMEs



Progression of ICT Adoption

According to ECTEL SME Report (2009), majority of our SMEs are at “Basic Information Technology”

Source: Small and Medium Enterprises and ICT, Vadim Kotelnikov, 2007

Extra-Regional Opportunities

- Outsourcing and Business Process Outsourcing (BPO)
- Channels for locally-produced content

CONCLUSIONS

Actions

- Governments and regional organizations must continue to address the “Four Pillars” necessary to support a vibrant ICT sector.
- Businesses need to identify under-served niche markets.
 - Market research
 - Managerial expertise
 - Financing
 - Networking
 - Online point-of-contact
- Businesses need to rapidly build knowledge and experience by targeting local markets.
- They then need to rapidly leverage the experience gained to improve their chances of success when entering global markets.

THANK YOU



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