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Transforming Tomorrow:
Facilitating Investment Through
Strong Telecommunications and
Broadcasting Sectors.



Progressive, Fair & Fearless

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TATT to launch first Universal Service Initiative

TATT is excited to roll out its first universal service initiative in 2016 that will focus on the provision of assistive technologies to persons with disabilities (PwDs). This will significantly bridge the digital divide for 10% of the persons in Trinidad and Tobago who are visual or hearing impaired. The digital divide is the gap that separates persons with access to information and communication technologies (ICTs) and those who do not.

This will be TATT's first universal service initiative as the organisation takes positive steps towards reducing the digital divide. The Telecommunications (Universal Service) Regulations 2015 was passed in Parliament in June 2015 paving the way for TATT to commence its Universal Service Initiatives.

Universal Service is one of TATT's mandates to facilitate the provision of basic telecoms services to persons in Trinidad and Tobago. Through the provisions in the universal service regulations, it is expected that all citizens will have access to basic telecommunications and broadcasting services at affordable prices.

TATT recently met with several stakeholder groups, including the Ministry of Social Development, to discuss appropriate assistive technologies and equipment to be provided as well as the number of PwDs to be assisted. Information from these sessions is being used to develop the Universal Service Implementation Plan for this initiative. This is scheduled to be implemented in the next financial period, 2015/2016.

TATT views PwDs as a key constituent that has been excluded from the digital environment in Trinidad and Tobago and as such has taken a keen interest in reducing the divide that separates this group from accessing those services.

"Universal service is a goal any country must attain if it is to realise the full potential of the use of telecommunications and broadcasting services for socio-economic development. Universal Service is a mandate that TATT is committed to achieving."

Blowing away expectations:

"One becomes an entrepreneur not by birth but by education as well as experience." -Christine Volkmann, 2004



Budding Entrepreneurs attend 2015 ICTs 4 Skills Development & Entrepreneurship for Young People workshop.

Interested in starting your own business? Then Hyatt Regency was the place to be, from August 5th to 7th, 2015, as TATT held its ICTs 4 Skills Development & Entrepreneurship for Young People workshop. Now back for its 2nd incarnation, TATT partnered with the University of Trinidad and Tobago (UTT) to help seventy-five young persons (aged 18 to 35 years) develop innovative business ideas capitalising on advancements in digital technologies.

Moving beyond theory, this programme provided practical, real-world introductions into key topics such as trends in innovations in ICT, mastering critical and creative thinking, developing and marketing mobile applications, protecting and deriving value from Intellectual Property as well as social media management strategy for a start-up.

BLOWING AWAY EXPECTATIONS
Along their journey of learning, participants

explored entrepreneurial fundamentals such as how to raise start-up financing, develop a business idea, and foster sustainability measurements. At the end of the three days, participants were able to gain a better understanding of what works and why, as they started their own businesses; to address the strategic and financial challenges associated with owning and running a business; and how to manage these risks that are inherent in any business process.

According to Mrs. Judith Morrin-Webb, Research Associate, UTT, one of the lead facilitators at the workshop, it is critical for burgeoning entrepreneurs to understand the practical perspectives that drive innovation, growth and profitability for start-ups. Attendees gained first-hand experience in using Edward de Bono's 6 thinking hats methodology, as a powerful resource tool for brainstorming their business ideas and drive innovative thinking.

Marissa Martinez, Business and Technology Strategist & Consultant has stated that the six hat thinking concept is used "by breaking down our thought into six 'parallel' or 'lateral' areas allowing the full spectrum of thought; from gut feeling to data analysis to be separately discussed. By using these six types of thinking in a structured way, groups can more effectively approach problem solving."

Needless to say, the expectations of these budding entrepreneurs were blown away as participants worked in groups to deliver a two minute sales pitch of their respective business ideas which included a poster or advertisement, before a panel of judges. The panel comprised of Mr. Rikun Meekjohn, Assistant Vice President, Entrepreneurship & Technology Commercialization (UTT), Mr. Rawle Harvey, Communications Officer (TATT) and Ms. Radha Permanand, attorney and consultant (UTT).

FAILURE: NOT AN OPTION

As part of the three - day programme, the breakout sessions provided an experimental and interactive space for the attendees to benefit maximally on building capacity and networking opportunities. "What I loved about the competitive element of the programme, was witnessing the progression among these groups of strangers who were able to utilise the business concepts learned to generate sustainable, dynamic business ideas" said Mr. Harvey (TATT). "As each group stood on stage, I saw laser-like focus, passion and drive that foster entrepreneurship," he added.

A project management application (app) designed to control costs in the construction industry pitched by the group Under Run won the elevator sales pitch and poster presentation competition. Other presentations included a Makeup App designed to help men and women determine the best cosmetics to use given each person's unique facial structure and skin tone which placed second and the conceptualisation of a travel agency which would customise vacation packages in Trinidad and Tobago for prospective clients, won third place.

FUELLING DIGITAL ENTREPREURSHIP

When asked "Why is TATT facilitating such a dynamic programme?" Mr. Cris Seecheran, CEO at TATT replied "To fuel digital entrepreneurship, and to connect young Trinbagonians to ICT opportunities." He continued "ICT is a driver of innovation and any enabler of entrepreneurship will in turn promote economic transformation and growth."

Mr. Seecheran added that "TATT is building entrepreneurship among young persons as one of its initiatives to improve capacity in the ICT arena particularly in telecommunications and broadcasting related fields. One of the reasons this event is sponsored by TATT and the general public is invited to participate free of charge, is to encourage persons living in all communities, including those that are underserved, to take up the opportunity to develop the required entrepreneurial capacities and gain access to ICT tools and resources that may not be easily accessible to them within a mentoring environment." He concluded that he hopes these young persons take full advantage of this unique opportunity on their entrepreneurial journey and he looks forward to connecting with burgeoning entrepreneurs again next year.

References: <http://www.storyboardhat.com/articles/business/brain-storming/six-thinking-hats>

TATT BYTES

Transforming Tomorrow : Facilitating Investment Through Strong Telecommunications and Broadcasting Sectors

In a recent interview with TATT Bytes, Cris Seecheran took a broad perspective of the local telecommunications and broadcasting sectors and their impact on investment in the ICT industry.

User demand for access to information is expanding exponentially. The world has become mobile first, the Internet of things and cloud computing are becoming the norm. Conversation now revolves around social networking, big data and Green ICT, digital trade and ICT supply chains.

According to Mr. Seecheran "we are moving to a world where communication is now almost limitless. The combination of devices and services people hold in the palm of their hands for generating and consuming data creates tremendous opportunities for investors."

Regarding the local ICT industry, Seecheran said, "Trinidad and Tobago's telecommunications and broadcasting sectors are ripe for investment. Investors expect us to provide the foundation upon which they can successfully deliver maximum quality of goods and services to consumers."

"Telecommunications regulators like TATT", he noted, must therefore strike the right balance between being continuously focused on "what tomorrow's technology sector will look like and how to regulate it to ensure that their countries are ready to meet consumer demand and investor needs".

*"TATT must therefore strike the right balance between being continuously focused on what tomorrow's technology sector look like and how to regulate it to ensure that Trinidad and Tobago is ready to meet consumer demand and investor need."
— Mr. Cris Seecheran, CEO, TATT*

Mr. Cris Seecheran
Chief Executive Officer
Telecommunications Authority of Trinidad and Tobago

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Facilitating Investment

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TATT BYTES

Investors coming to Trinidad and Tobago will find that TATT has facilitated the build out of a strong infrastructure backbone that is ideal for investment – robust broadband infrastructure; a revised legislative agenda to match today’s demands that is Economic Partnership Agreement (EPA) compliant with critical consumer quality of service regulations and rules for interconnection offers that will ensure no anti-competitive practices amongst providers.

TATT, through its authorisation framework and relevant regulatory procedures, ultimately assumes responsibility for determining the number of players in the sectors, always seeking to encourage investment and promote competition, he noted.

Seecheran stressed that convergent technology, greater competitive pressure and growing consumer expectations in the telecommunications and broadcasting sectors are so ever present that telecommunications regulators and service providers must constantly be prepared for the next change.

He noted the design of TATT’s regulatory framework covers critical elements which should be included in any effective regulatory framework, transparent decision-making, accountability to our stakeholders coupled with the increased adoption of high level market analysis in our market reports; consumer protection, dispute resolution and enforcement powers. Consideration and proper implementation of these features are key elements for creating an enabling environment for development of the sector and increased consumer welfare.

Cris Seecheran added that the recently passed Universal Service Regulation now facilitates the bridging of the digital divide for nationals irrespective of their varying abilities and geographic location.

He stated that "Other initiatives, like the Local Internet Exchange Point (LIXP) has seen the reduction of the average per-bit delivery cost of local internet service and reduced latency for local traffic. Internet users also enjoy general improvement in download speeds for locally hosted content such as online video, radio, games and other applications.

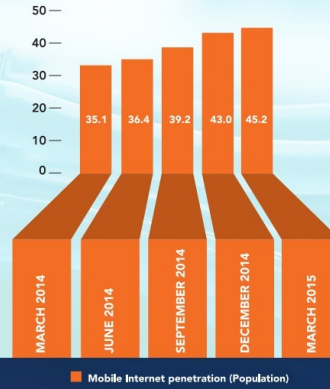
Number portability, fair and efficient management of spectrum and numbering resources; the transition to IPv6 and Digital Terrestrial Television are all expected to have significant impact on the way business is conducted in Trinidad and Tobago and inspire investor confidence when they come on stream.

Using a light touch approach, TATT has engaged in substantial public education on topics like cyber security; building entrepreneurial capacity among the nation's young persons with their Youth and Entrepreneurship workshop; and encouraging innovation in small and micro enterprises. Seecheran noted that TATT's quarterly ICT Open Fora allows the organization, providers and consumers to engage in dialogue on current affairs in the industry.

Knowledgeable users, Seecheran stressed, drive demand and create new opportunities for investment.

Market Insight

- Upward Trend in the demand for Mobile Internet



Mobile Internet users continued to grow in the first quarter of 2015 with increases in subscriptions of 30,000 or 5% over the final quarter of last year. At the end of the first quarter of this year there were just over 600,000 mobile Internet users.

The market has seen steady growth in the demand for mobile Internet services on a quarter-to-quarter basis over the past two (2) years, whilst service providers continue to expand their mobile broadband service.

Today, approximately 45 out of every 100 persons in Trinidad and Tobago used mobile Internet services in the first quarter of 2015. This represents a significant increase of 134,000 or 29% when compared to the same period last year.

For more statistics on the performance of the telecommunications and broadcasting sectors, please read the Authority's most recent Quarterly Market Report on our website: <http://tatt.org.tt/ReportsStatistics/QuarterlyMarketReport.aspx>

Calculated using the number of Active Mobile Internet Users

Should Over The Top services be REGULATED?

Smart phone users take advantage of the opportunity to connect with friends and family abroad using over the top (OTT) Internet applications (Apps) to avoid costs associated with telephone bills. These apps are readily available, easy to use and seemingly free.

Globally, this is developing into a growing concern for traditional telephone service providers who are faced with declining revenues whilst maintaining expensive telephone and Internet networks over which these Apps run. More importantly, providers and governments are receiving no revenue from OTT voice services.

At a recent TATT ICT Open Forum - part of the organisation's public consultation on the topic - "Should Over The Top (OTT) services be regulated?" - Mr. David Cox, Head of Regulatory Affairs, LIME (a Cable and Wireless Communications subsidiary) noted that "the consumer can provide some resolution to this matter and questioned what role does customer choice plays. Whether it was possible to say let the market decide; where there are customers who do not mind paying more for the services they want, whilst others may say they want to work with the provider who is transparent about its policies, doesn't want to throttle etc."

According to one OTT user Cheryl Lala "there is a reason why people are choosing to use what is in fact a poorer quality of service is because it's free! ... We don't have to pay roaming charges! Because we don't have to pay excessive fees for simple, basic, communications and entertainment!"

The OTT Challenge
OTT voice services can take the form of messaging; or voice services (also known as Voice over Internet Protocol or VoIP services), competing directly with services offered by authorised telecommunications service providers.



"Consumer appetite for mobile data and richer services is growing rapidly, and as a result new IP-based communications services such as Skype, WhatsApp and Facebook Messenger are becoming increasingly popular. These services will continue to gain traction with the growth of LTE networks and devices. This means operators will need to consider which type of partnership or over-the-top integration models will allow them to drive revenue and sustain their business models in the longer term."

- Groupe Spéciale Mobile Association's 2015 Mobile Economy Report.

As a result, public telecommunications services offered by authorised providers, specifically voice and SMS, face a great deal of competitive pressure from OTT services.

Because carriage is separated from content on Internet networks, OTT service providers can deal directly with end users. The network operator remains effectively outside of this transaction and therefore has no control over the content or the application.

Mr. David Geary, General Counsel Digicel (Trinidad and Tobago) Limited noted that income in the voice and SMS markets is on the decline and are expected to fall by 30% to 40% by the end of 2017. He added the large number of smart phones and apps in use today will contribute significantly to this. He noted "Some OTT players have customer bases that dwarf those of even the largest telecoms companies... the Facebook/WhatsApp conglomerate has 1.4 Billion and 800 million users respectively". He added that given the global nature of the Internet, OTT and VoIP applications sit outside the scope of sector-specific national or regional regulatory and fiscal obligations including data privacy, legal interception, emergency calls, universal service contribution, taxes, consumer rights, and quality of service.

Ms Christa Leith, Head, Regulatory & Policy Affairs (Ag), Telecommunications Services of Trinidad and Tobago (TSTT) stated that OTT growth is largely due to the lack of regulation to date but, telecom regulation alone is unlikely to provide a solution. She opined that the challenge of OTT and VoIP is whether, in the local jurisdiction, this business model compromises market rules and creates regulatory imbalance in oversight.

Ultimately, the reality is that OTT and VOP services are here to stay and any regulatory measures adopted must ensure that all stakeholders' interests are protected.





TATT Gives Tech Tips to Seniors



Over 600 seniors attended the latest edition of "ICTs for Seniors" co-hosted by the Ministries of Science and Technology and People and Social Development at Skinner Park, San Fernando on Wednesday July 22nd 2015. At this event, TATT provided a wonderful opportunity to educate seniors on how to make modern technology work for them, as whilst they may be using the technologies, they may not be taking full advantage of the benefits.

TATT therefore focussed on the benefits of using computers/Internet including:

- Improved motor skills and mental agility
- Access to information on public services
- Purchasing items without having to leave the comfort of their homes.
- Paying household bills online and managing finances.

Here are some of the "Tech Tips for Seniors" presented by TATT which highlighted features of a mobile phone that are particularly beneficial to this age group:

- 1) **Create a contact list** – for ease of use to connect regularly with your friends and family especially in emergencies, it provides a quick and easy way to access the numbers.
- 2) **Make use of Speed dial** – by simply pressing one or two numbers to automatically dial a mobile and/or land line, you can save time and this is also a great feature to have in emergencies e.g. medical, fire or police services.
- 3) **Become more familiar with Text Messaging** – this is quite useful in trying to make contact with a person who is unable to answer a call phone at a particular time e.g. when that person is in a meeting.
- 4) **Use the Event/Task Alarm** – it is now easier to remember to do a task or attend an event, by creating an event or setting the task alarm on your mobile handset. A timed alarm will set off to alert you when the task/event is due.
- 5) **Set up Voicemail** – this allows persons to leave messages if you are unable to answer your land line or cell phone.





Innovating SMEs – ICT innovation for boosting profit margins

"You need to flex your business process making use of telecommunications and ICT solutions that will take your business where you want it." Selby Wilson, Chairman of TATT addressing a one day seminar and mini exhibition for persons involved in Small and Micro Enterprises (SMEs).

The seminar entitled "Innovating SMEs - ICT Innovation for Boosting Profit Margins" was held at the Hilton Trinidad and Conference Centre on Wednesday May 27th 2015 to commemorate World Telecommunications and Information society Day 2015. Addressing participants, Mr. Wilson said the workshop was aimed at offering SME businessmen and women an opportunity to learn how to brainstorm some "safety pin" type ICT innovations for their businesses.

He stressed that to innovate, SMEs should take advantage of concepts being employed by major online sellers like Amazon and eBay and other companies such as JC Penney, Walmart and Macy's, whilst maintaining their traditional stores to drive billions in sales per day to their online portals. This he added led to the emergence of "flex shoppers" – consumers that shop at both, brick-and-mortar and online stores.

He advised that technology solutions offer ways to help keep SMEs from getting bogged down in the mechanics of scheduling deliveries and sales on the local and international market, so that more time can be spent meeting customers' needs and wooing new ones. Keynote speaker, Professor Abhijit Bhattacharya, Innovation Lecturer at the University of Trinidad and Tobago (UTT) engaged the audience on reasons why businesses should innovate, how to innovate as well as the importance of combining business with innovation.

- Fab Lab
The National Institute of Higher Education Research Science and Technology (NIHERST) with its creative Fab Lab - a fully operational design suite and technical prototyping platform for innovation and invention.

- WTSD 2015
Caribbean Industrial Research Institute (CARRI) focused on Intellectual Property Rights and Food Innovation

-Business Development
The Ministry of Labour and Small and Macro Enterprises and the National Entrepreneurship Development Company (NEDCO), on developing and financing businesses



TATT BYTES

TATT in the Community

Public education on the move

Upcoming Seminars - September 2015

Three schools will start the 2015/2016 academic year with a "Cyber Security Bang!"

TATT will be visiting Matura High School, Matura, Point Fortin East Secondary School, Point Fortin and Speyside High School, Tobago to educate students on the dangers in cyber space. Additionally, TATT's staff will provide students with career tips for those interested in pursuing employment in the Information Communication Technologies (ICTs) field.

Students will also be exposed to the organisation's role in regulating telecommunications and broadcasting services in Trinidad and Tobago and the important contributions of ICTs to our daily activities.

TATT regularly hosts public education sessions throughout Trinidad and Tobago focussing on the role of the Telecommunications Regulator, cyber-security and careers in ICT.

If you want TATT to host a cyber security exhibition or seminar simply send an email to info@tatt.org.tt for more information.

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TechBox

Smart Guide to Online Shopping.

In today's market space, online shopping has become the norm. Consumers sit comfortably at home and purchase items from online retailers; having the products delivered to their doorsteps.

This is quite convenient; no hassle of leaving their homes, expending less time and energy finding the products of their choice. Products and services can also be purchased from foreign retailers, allowing consumers to access products not available at their local marketplaces.

In a presentation at the Chaguanas Chamber of Industry and Commerce, the Governor of the Central Bank of Trinidad and Tobago presented that in less than two years, January 2013 to November 2014, consumers spent US\$1.1 Billion on foreign credit card purchases. This figure is expected to rise given the recent increases in uptake of skybox subscriptions and continued increase in volume of shipments to Trinidad over the last two years.

Considering these developments, this smart guide gives an overview of what consumers should be aware of before making those online purchases.

1. General Terms & Conditions of purchase.

There is usually a link to the terms and conditions on the webpage during a sale process. Before ticking that checkbox to confirm your acceptance, here are some general items you may want to closely examine within those terms and conditions:

- Parties to the Agreement
- Price
- Delivery Schedule
- Payment Terms
- Termination
- Goods Purchased
- Shipment and Delivery Terms
- Packaging
- Duties, Taxes, Customs Clearance
- Return Policy

2. Refund/return policies and delivery dates.

What if I get something other than what I ordered? What if my order never arrives? Can I return the item for a full refund if I am not satisfied? If I return it, who pays the shipping costs or restocking fees, and when will I get my order?

Make sure to ask these questions and ensure that you are satisfied with the answers provided before completing your purchase. Call or email the company for details if you are not clear on any area before you complete the purchase. Remember many sites offer tracking options, so you can see exactly where your purchase is, and estimate when it will arrive. .

3. Warranty Policy.

Manufacturer's Warranty vs. Seller's Warranty.

A warranty is a legally binding assurance provided by the seller/manufacturer for the product. Make sure to ask about any existing warranties and ensure that you understand which warranty will accompany your item when purchased. If the product does not meet the expectations or claims, then the assurance provider may be bound to repair or replace the product. A manufacturer's warranty provides service and support for purchases with defects at any of the authorised service centres of the respective manufacturer. With a seller's warranty / dealer's warranty, the warranty service and support is provided by the respective seller or dealer location.



