

TICAD V UNIDO-AU Side Event

**Clean Technologies for Sustainable Industrial Development of
Africa**

*resource efficiency and renewable energy for low carbon and
climate resilient growth*

**How to Advance Wind Energy in the Region
African Supplier Prospective**

SWEG - Elsewedy for Wind Energy Generation
Eng. Faisal Eissa







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2. Wind Energy Business – World Wide Situation
3. Prospects for Africa
4. What will the Wind Energy Bring to Africa
5. Wind Energy Business Challenges – African Prospective
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EL-SEWEDY GROUP

6/4/2013

www.elsewedyelectric.com

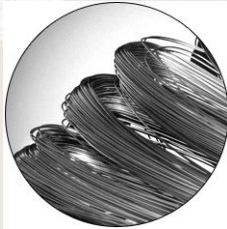


ELSEWEDY ELECTRIC

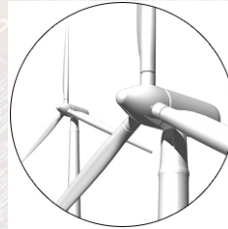
Integrated Energy Solutions

>10,000 employees

EGP 12,902 million Net Revenue



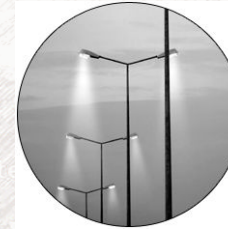
Wires
and Cables



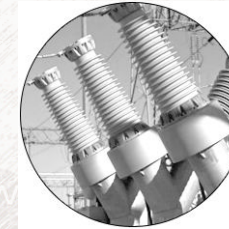
Wind Energy
Generation



Engineering
and
Contracting



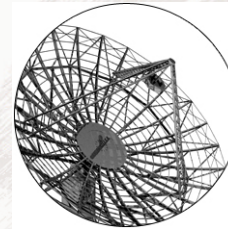
Electrical
Products



Transformers



Energy
Measurement
and Management



Telecom



Solar
Energy
Solutions

>30 factories

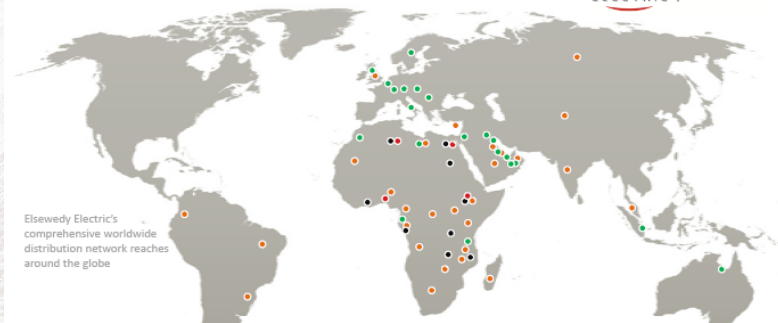
**biggest electrical manufacturer
in MEA**

Net revenues reached EGP 7,127 million

Gross profit totaled EGP 947 million

Net Income reaching EGP 130 million

GEOGRAPHIC PRESENCE



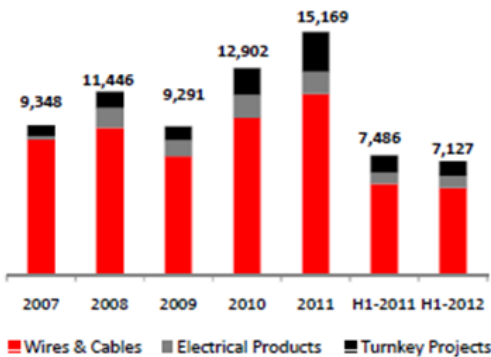
Elsewedy Electric's comprehensive worldwide distribution network reaches around the globe

Regional Office	Elsewedy T&O	PSP	Main Export Market
Equatorial Guinea	United Kingdom	Egypt	Colombia
Morocco	Belgium	Algeria	Uruguay
Jordan	Germany	Ethiopia	Brazil
Iraq	Switzerland	Ethiopia	South Africa
Kuwait	Sweden	Ghana	Zimbabwe
Qatar	Austria	Equatorial Guinea	Mozambique
Bahrain	Slovenia	Sudan	Madagascar
UAE	Italy	Mozambique	Malawi
Oman	Lithuania	Zambia	Congo DRC
Singapore	Australia	Rwanda	Angola
			Uganda
			Rwanda
			KSA
			Kuwait
			UAE
			Kazakhstan
			India
			Russia
			Kenya
			Malaysia

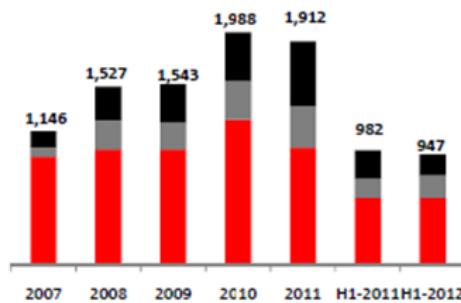
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Elsewedy Electric Investor Presentation 2010

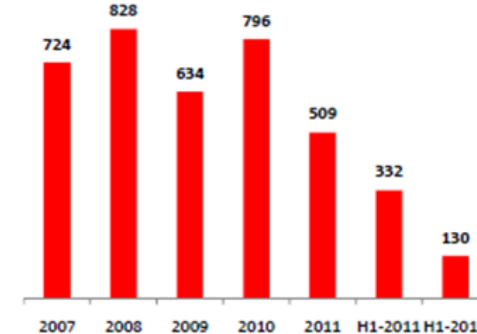
Revenue (LE million)



Gross Profit (LE million)



Net Profit (LE million)



WIND ENERGY BUSINESS – WORLD WIDE SITUATION

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The World Wind Energy 2012 – Annual Report

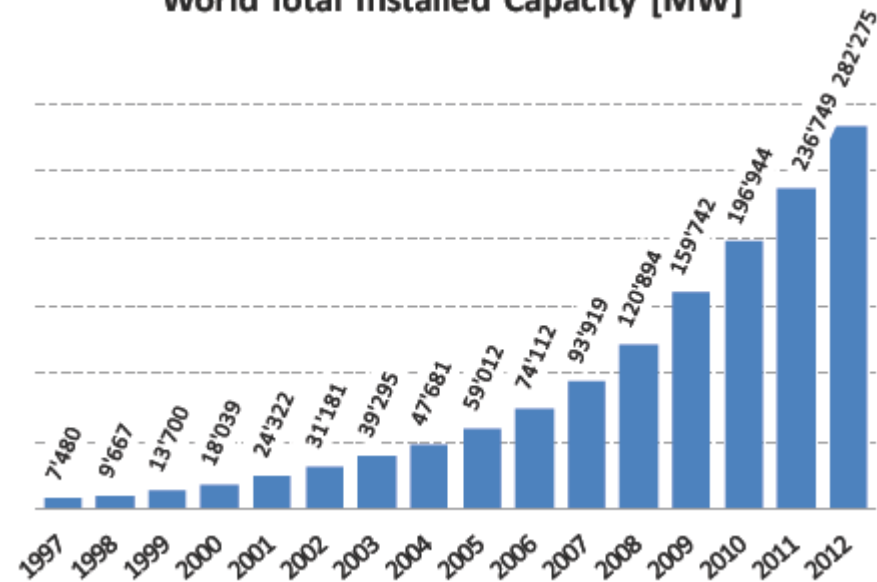
282,275 MW
Total Installed Capacity

44.6 GW
Capacity Installation in 2012

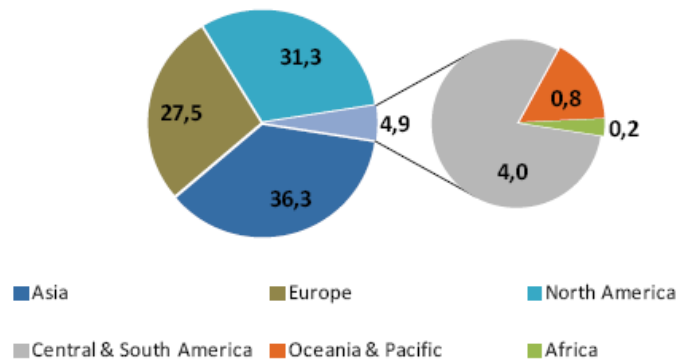
60 bn EUR Turnover
Total Wind Business in 2012

19.2% Growth Rate
Global Wind Business in 2012

World Total Installed Capacity [MW]



Continental Shares in New Capacity
2012 [%]



Source: The World Wind Energy Association – Annual Report 2012

PROSPECTS FOR AFRICA

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WHAT WILL THE WIND ENERGY BRING TO AFRICA?

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Benefits of the Wind Industry in Egypt

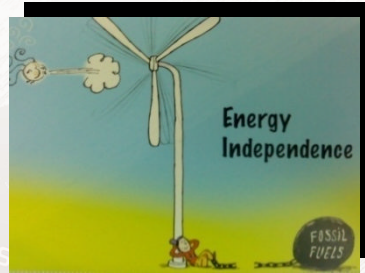


Economic Growth

→ Estimated **Turn Over** in **Egypt** of **Euro 10.6 Billion** (Appx. Egp 80 Billion) by 2020 (estimation based on today's prices! (Source: EWEA 2009)

→ Expected at least 3 potential local wind turbine manufacturers & 10 potential local IPP/developers by 2020 (Source: current market situation)

→ Approximate indirect development of 30 local sub-suppliers & related supporting industries (RM supply, sub contractors, components supply, consultation & banking services...etc)



Energy Independence

→ Wind resources are available locally and will never deplete! **Egypt's** foreseen **potential** is **20,000 MW** installed wind energy (Source: NREA)

→ Utilizing wind energy will reduce dependence on oil imports and contribute to the security of energy supply

→ Utilizing wind energy will lead to diversity of energy supply (Oil, natural gas, nuclear, wind...etc.), target is to reach 20% of generation capacity from **Renewable Energy, 7200 MW** by 2020 (Source: MoE)

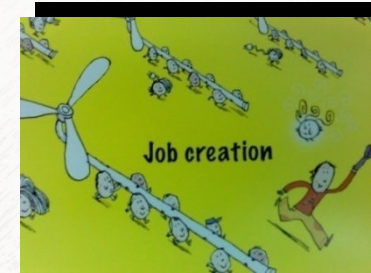


Clean Environment

→ Egypt is challenged to strike the balance between availing energy for growth while reducing Carbon emissions to acceptable levels. Wind doesn't pollute the environment!

→ With 322 MW wind energy installed Zaaferana saved 190,000 T.O.E and reduced emissions of about 450,000 TCo2 in 2007 (Source: NREA statistics)

→ With 7200 MW wind energy installed, Egypt would Appx. **save 4.25 Million T.O.E** and **reduce emissions** of about **10 Million TCo2** (Source: Projection on NREA statistics)



Job Creation

→ Wind energy in Egypt would impact direct (e.g. manufacturers, IPP/developer...etc) and indirect (RM, related services...etc) employment

→ In Europe wind energy employed 154,000 people in 2007, with a rate of 15 people direct employment per MW installed per year (Source: EWEA 2009)

→ The wind energy industry in **Egypt** could participate for the creation of **75,000 direct jobs** by 2020 (Source: projection on EWEA statistics)

WIND ENERGY BUSINESS CHALLENGES – AFRICAN SUPPLIER PROSPECTIVE

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Challenges Facing the Wind Energy Sector in Egypt

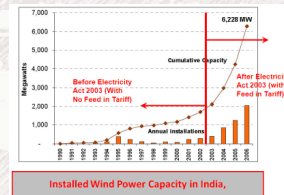
1. Technology



2. Political Awareness



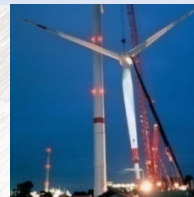
3. Regulations & Support Scheme



4. Financing



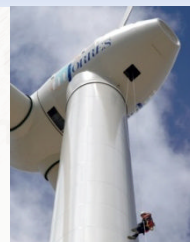
5. Local Manufacturing & Components



6. Specialized Experiences & Labor Force



7. Product Quality & High Service Level



Challenges Facing the Wind Energy Sector African Prospective



SWEG – A LEADER IN AFRICA & MIDDLE EAST WIND BUSINESS

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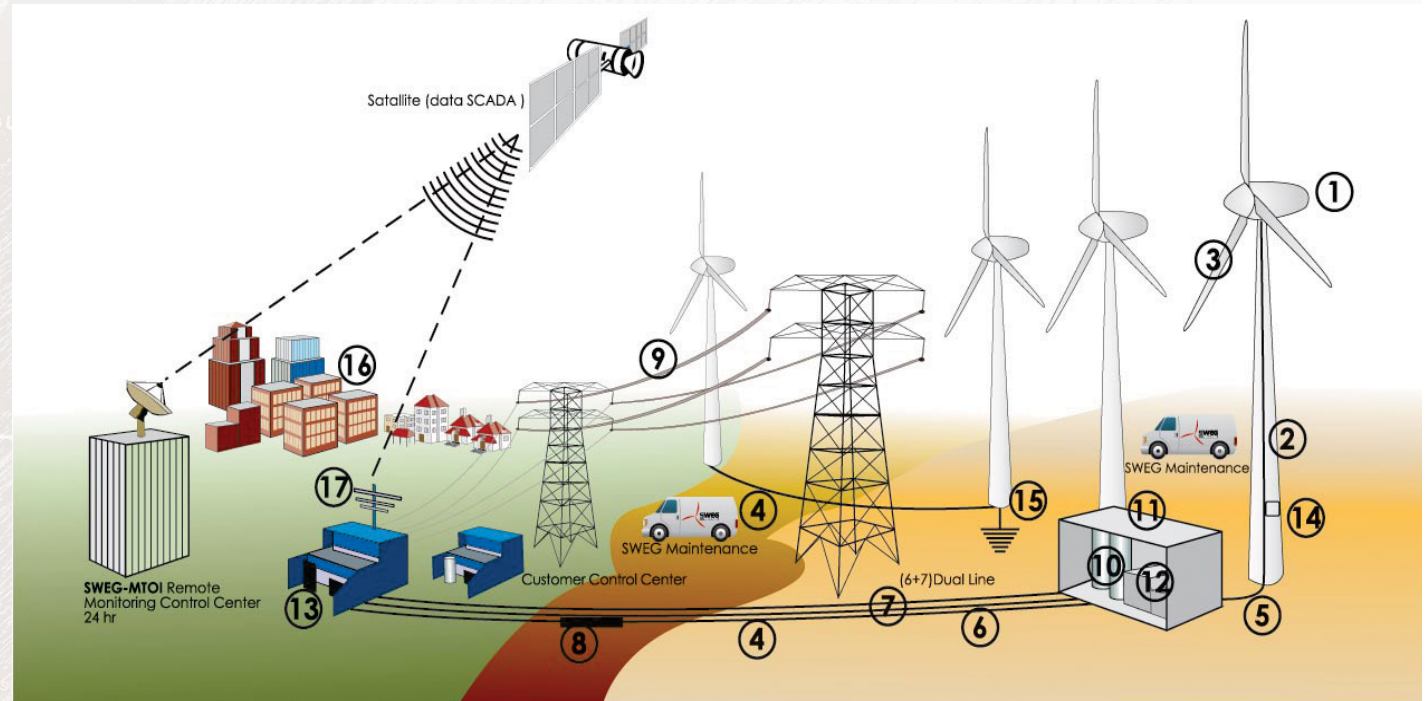
El-Sewedy for Wind Energy Generation – SWEG

We are offering the complete solution...

- 1 - Wind turbines with M.Torres top -notch technology gearless concept
- 2 - Wind towers with SIAG steel industry experts
- 3 - Rotor blades
- 4 - MV power cables
- 5 - LV power cables
- 6 - LV control cables
- 7 - Fiber optics cables
- 8 - Joints, terminations and accessories for all types of cables
- 9 - Overhead transmission lines
- 10- MV/LV distribution transformers (oil & dry type)
- 11- MV/LV prefabricated substations
- 12- Ring main unit
- 13- MV switchgear
- 14- Switchboard
- 15- Earthing systems
- 16- Measuring devices
- 17- SCADA system

and servicing them all...

- Operation & maintenance of wind turbines and all its related parts
- Operation & maintenance of wind towers and all its related parts
- Energy generation, development of wind farms and sales of electricity to third parties
- Wind farms constructions, operation & maintenance activities
- Project management
- Project financing assistance
- Integrate & utilize other capacities within Elsewedy Electric to provide a specialized, complete and full service to the wind energy market (cables, switchgear, transformers ... etc.)



- Wind Turbines Supply
- Turnkey Solutions
- Operation & Maintenance
- Wind farm Co-development

- Direct drive - Gearless
- Reliability & Robustness
- Simple Mechanics & Maintenance

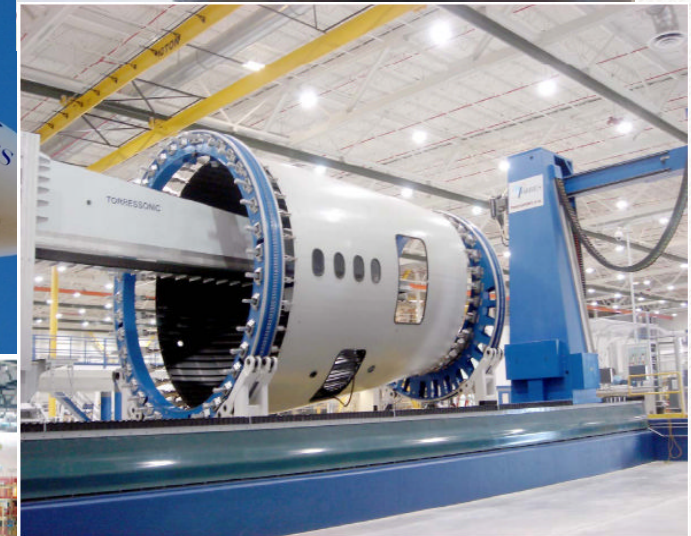
TURBINES - MTOI

M.Torres Company Overview

- Leading in Paper, Aerospace & Wind Engineering
- A total of 500 high skilled employees
- 15% of its turnover for R&D

M.Torres Wind Division

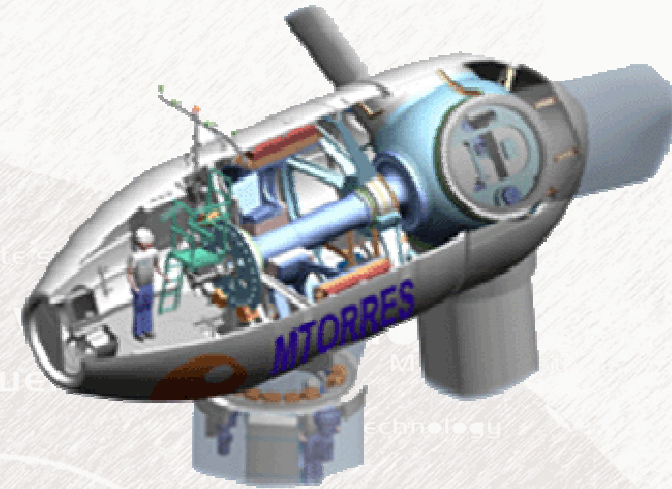
- 2001 first innovative prototype
- 1.65 MW Gearless – Direct drive
- Simple mechanics & maintenance



Top Notch Technology – Gearless Concept

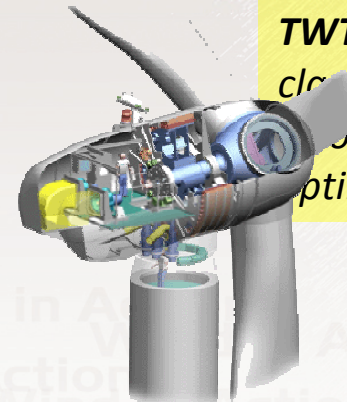
Direct drive – Gearless

TWT-1.65 /70 /77 /82			
Operational Data			
Wind turbine class (IEC)	IA	IIA	IIIA / IIIB
Generator	Variable-speed, multipole synchronous generator with electrical excitation		
Type	1,650 kW		
Power	690 V - 50/60 Hz		
Voltage, freq			
Rotorblade			
Diameter	70m	77m	82m
Rotor speed	Variable speed, 6 to 20 rpm		
Control	Pitch control, electric with 3 independent motordrives		
Tower			
Hub height	71m	71m / 80m	71m / 80m
Construction	Tubular conical steel		
Conceptual	Gearless compact concept with full power converter system		
Direct Drive			



Reliability & Robustness

Simple Mechanics & Maintenance



TWT 2.5 MW (under development)
 covers IA, IIA & IIIA (IEC)
 rotor diameter 90, 100 & 109m
 optimal performance

TOWERS – S.E.T

SIAG Company Overview

- The leading tubular steel tower supplier in Germany and Europe
- Market share more than 30%
- Leading technology in steel industry
- Over 2,000 employees
- Proven track-record of growth in Europe & Worldwide





Egypt picking up the pace

Big call for proposals coming this year

JAN DODD
Windpower Monthly
special Correspondent

To improve security of supply and maximise oil and gas exports, Egypt aims to generate 20% of its electricity from renewables by 2020, up from less than 1% today. Of this, wind is expected to meet 12%, requiring 7.2 GW of capacity by 2022. The government is currently reviewing the impact of wind power this

WORLD
FUTURE
ENERGY
SUMMIT

COUNTRY MARKETS - Egypt

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neue energie

das magazin für erneuerbare energien

RENEWABLE ENERGY WORLD.COM

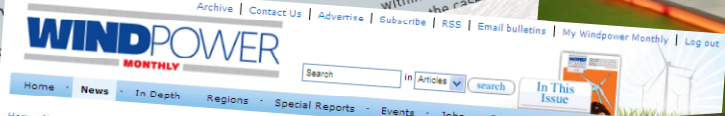
“Tough people for tough markets” Interview

Faisal Eissa, managing director of the only African wind turbine manufacturer on the business of this renewables pioneer. the impact of the political revolution in Northern Africa on the business of this renewables pioneer.

Interviewed by Hanne May, ph

new energy. Your home c
neighbouring countries ar
upheaval. How far have y
activities been affected?
Faisal Eissa, El-Sewedy G

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Part of SWEG's an
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Libya to build first wind energy project
Jan 06pm
LIBYA: Libya is about to join the wind power club with the construction of a 61.75MW pilot facility at Al-Fetaih, near Derna on the windswept north east coast.



The project will use mTorres 1.65MW direct drive turbines

- Market Status: Northern Africa and Middle East - Political turmoil and long-term goals dominate
- Domestic wind power grows oil exports
- Tunisia looks to wind in face of power deficit and rising fuel costs
- Vestas lands 'breakthrough' 18MW Finnish order
- Syria-Gamesa project negotiations postponed
- UK offshore wind - special report
- Terra-Gen brings in \$631 million AWEC finance



البورصة
Capital Markets Institute
10 تجالقات تناهل للمنافسة على مشروع طاقة الرياح
البحر الأحمر. الإسكندرية بالمركز الأول والقائمة تضم OGI والسويدي

الترتيب	الشركة	القيمة (مليون دولار)
1	شركة OGI	800
2	شركة السويدي	750
3	شركة EEM	700
4	شركة BSN	700
5	شركة AES	700
6	شركة GE	700
7	شركة GE	700
8	شركة GE	700
9	شركة GE	700
10	شركة GE	700



It was announced in October that Egypt projects including a 200-MW capacity wind farms in the Gulf of Suez. Recent I company El Sewedy, to build a 250-MW World Bank said that Egypt's Gulf of Suez 2022. The eastern and western Nile ba

Winds of engineering change

A Spanish designer has switched his attention from aeronautics to desalination plants, writes Leslie Crawford

Alternative Energy Africa
Filling the Energy Information Gap in Africa

www.elsewedy.com
REUTERS
EWEA 2011 BRUSSELS

AN INNOVATOR'S DOGS AND BOOTS
The shoes - don't stop
One year technology
The diversity by adding the
technologies that per have
increased to new solutions in
we get our sector
Don't consider entering a
business that is better done

Thank you for your attention.



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