



Technical Sustainable Management





Background of TSM Egypt certificate

TSM-EGYPT based of the DWA & DVGW (German Water/Gas Associations)

TSM- Egypt includes :

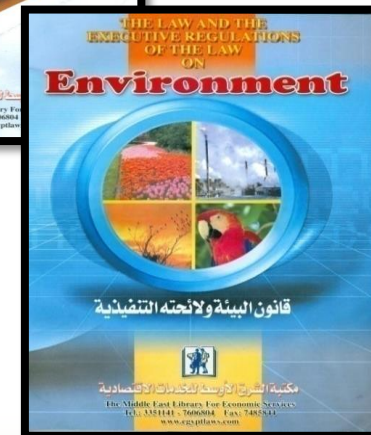
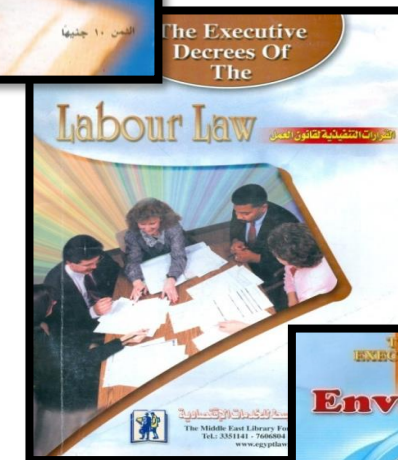
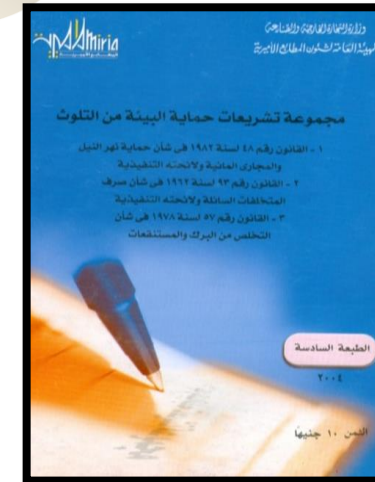
- Human resources,
- Occupational Health and Safety,
- Operation,
- Maintenance and
- Quality control/Quality assurance (QA/QC).





TSM Egypt Objectives

- Meeting the of the Egyptian laws, standard regulations
- A checklist tool acts as a quality guide for W/WW facility managers





TSM Egypt main activities & achievements

1. Institutionalisation of TSM Egypt
2. Establishment of the TSM EGYPT Inspection Department in HCWW
3. Certification of 15 Inspectors
4. 130 Certified Facilities [and counting]
5. Implementation Manuals for Managers of Water and Wastewater Facilities
6. TSM Egypt Web-Portal
7. Professional Skills Competitions
8. Establish Occupational Health & Safety (OHS) Systems





Success stories

- O&M cost and water production
- International Professional Skill Competitions
- Establishment of OHS system
- TSM-Egypt web-portal



Impact of TSM Egypt on the O&M cost

Reference :Gharbia AC-new Mahalla WTP record data 2014/2015

Items	Before TSM Egypt (2014)	After TSM Egypt (2015)	Saving percentage	daily saving(LE)
Chlorine (mg/l)	8.4	7.9	6%	2856 LE
Energy (watt/m ³)	352	350	2%	204 LE
Water production (per year)	9.756 Million.m ³	10.500M.m ³	% of production Increasing 8%	Additional income/day 513 LE
Total daily saving(LE)				3573 LE
Total annual saving(LE)/£				1.304.145(LE) 65000 £



Power Cost of 1m³ before and after (% of energy saved)

Reference: Monthly report of meet Khamees WTP-Daqhlia AC

Registered year 2015	Power cost of produced 1m ³ (watt/m ³)before TSM	Registered year 2016	Power cost of produced 1m ³ (watt/m ³) after TSM	Energy Saving percentage %
July	262 w/m ³	July	229 w/m ³	
August	250 w/m ³	August	231 w/m ³	
September	250 w/m ³	September	228 w/m ³	
October	249 w/m ³	October	218 w/m ³	
November	250 w/m ³	November	225 w/m ³	
Average	252 w/m³		226 w/m³	11%



International Professional Skill Competitions on confined space entry IFAT 2014 & 2016

www.dwa.de



So sehen motivierte MitarbeiterInnen aus!

Alle Teams des Berufswettbewerbs Abwassertechnik (WATER SKILLS GERMANY) auf der IFAT 2016 in München



Die Sieger



Azubis Servicebetriebe Neuwied Team

Klärantlagen Profis Augsburg Schönberg Gersthofen Team

Kanal Profis KSB-USA

Nächste Meisterschaft in der Abwassertechnik vom 14. – 18.05.2018 auf der IFAT München
Wir freuen uns auf ihre Anmeldung!

Three Egyptian teams at IFAT -2014

GIZA team at IFAT -2016

Berufswettbewerb Abwassertechnik
Ergebnis- Liste

Kanal-Profis (Einstieg/Straße und Pumpe)
IFAT 2014 (7.-8.5.2014) 2. Offene Deutsche Meisterschaft in der Abwassertechnik

1	Münchener Stadtentwässerung Kanalbetrieb-Bauunterhalt
2	Berliner Wasserbetriebe
3	SES-Stadtentwässerung Stuttgart Hauptklärwerk Stuttgart-Mühlhausen
3	Entsorgungsbetriebe Wiesbaden
→ 4	Gharbya Water and Wastewater Company Mahalaand WTP and Saft WWTP Ägypten
5	Stadtentwässerung Düsseldorf
→ 6	Sohag Water and Wastewater Company (Tahta WWTP) Ägypten
7	Wien Kanal Österreich
→ 8	Alexandria Watercompany (Nobarya WTP) Ägypten
9	Kommunalwirtschaft Bensheim
10	Münchener Stadtentwässerung Kanalbetrieb-Betriebsstation West
11	Stadtentwässerung Dresden
12	Stadtwerke Essen
13	Wirtschaftsbetrieb Hagen

Team	Score
USA	1
Nürnberg Drei im Weckla	2
Stuttgart All Stars	3
Stuttgart Pumpis	4
Ägypten	5
Düsseldorf	6
München Untergrund	7
Wiben	8
Bonn	9
Hagen	10
Köln	11
Dresden	12
Freiberg	13
Münchener Stadtentwässerung Gut Marienhof	14
Braunschweig	15



chlorine chamber,

Develop OHS System
laboratories and

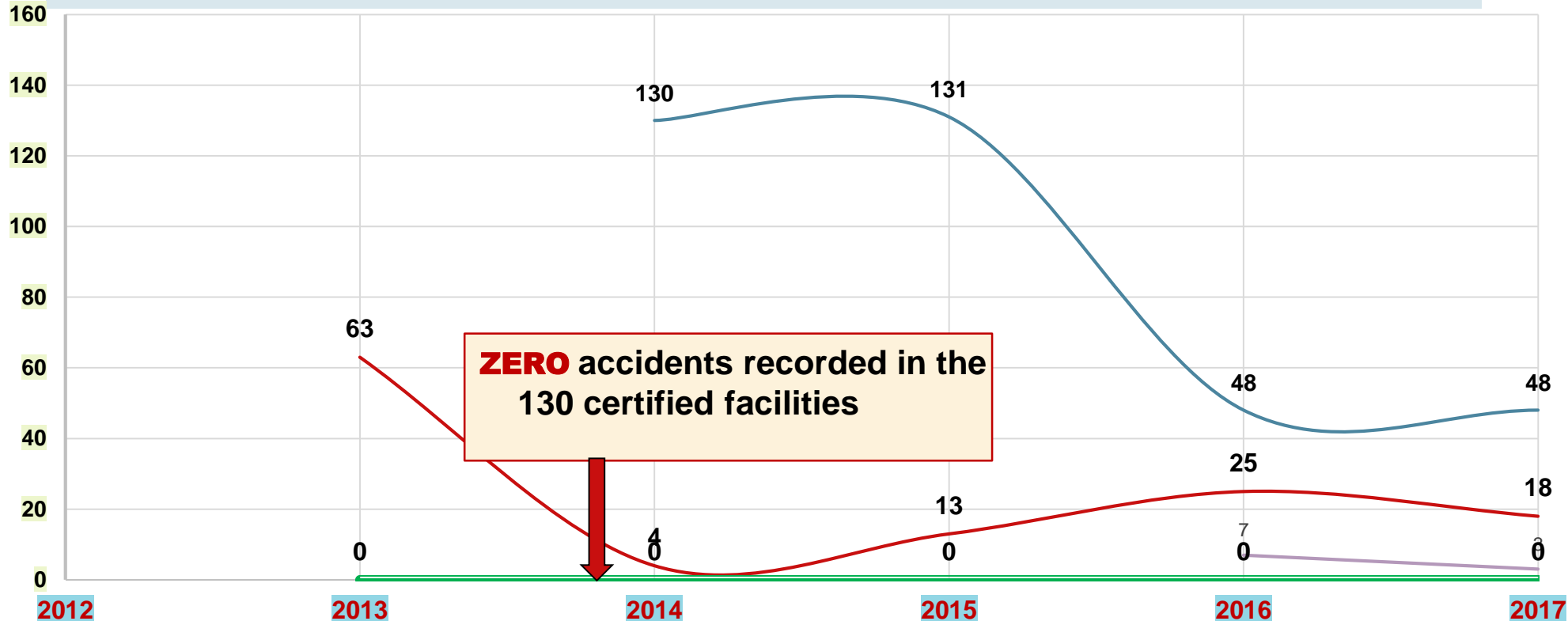
confined space





Why Is TSM Important?

Accidents analysis before and after TSM EGYPT



ZERO accidents recorded in the 130 certified facilities

— accidents of confined space — accidents of chlorine leaks
 — Collapse of the sides of the excavation — no of accidents on TSM facilities



Issue TSM EGYPT web-portal

TSM WEB-PORTAL

TSM EGYPT
Technical Quality Enhancement
The Holding company for water & wastewater - HCWW

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TSM-Egypt is the Egyptian arm for leading Water and Wastewater Companies in Egypt towards sustainability.

- TSM Administration
- Lessons Learned
- Questions & Answers
- TSM Library
- Neighbourhood Program
- Latest News & Participating events
- Inspection & Verification Results

TSM-Egypt

The TSM-Egypt program aims at the development of W/WW facilities to reach conformity to the Egyptian regulations, codes, laws and operation requirements. The TSM-Egypt certificate of conformity is based on the TSM German certificate issued by the German water associations (DVGW, DWA).

[Success Stories](#)
[in the Affiliated Companies](#)

Technical Sustainable Management, is a programme managed by the Holding Company for Water and Wastewater (HCWW) with support of the Egyptian - German Water and Wastewater Management Programme (WWMMP) since 2009.

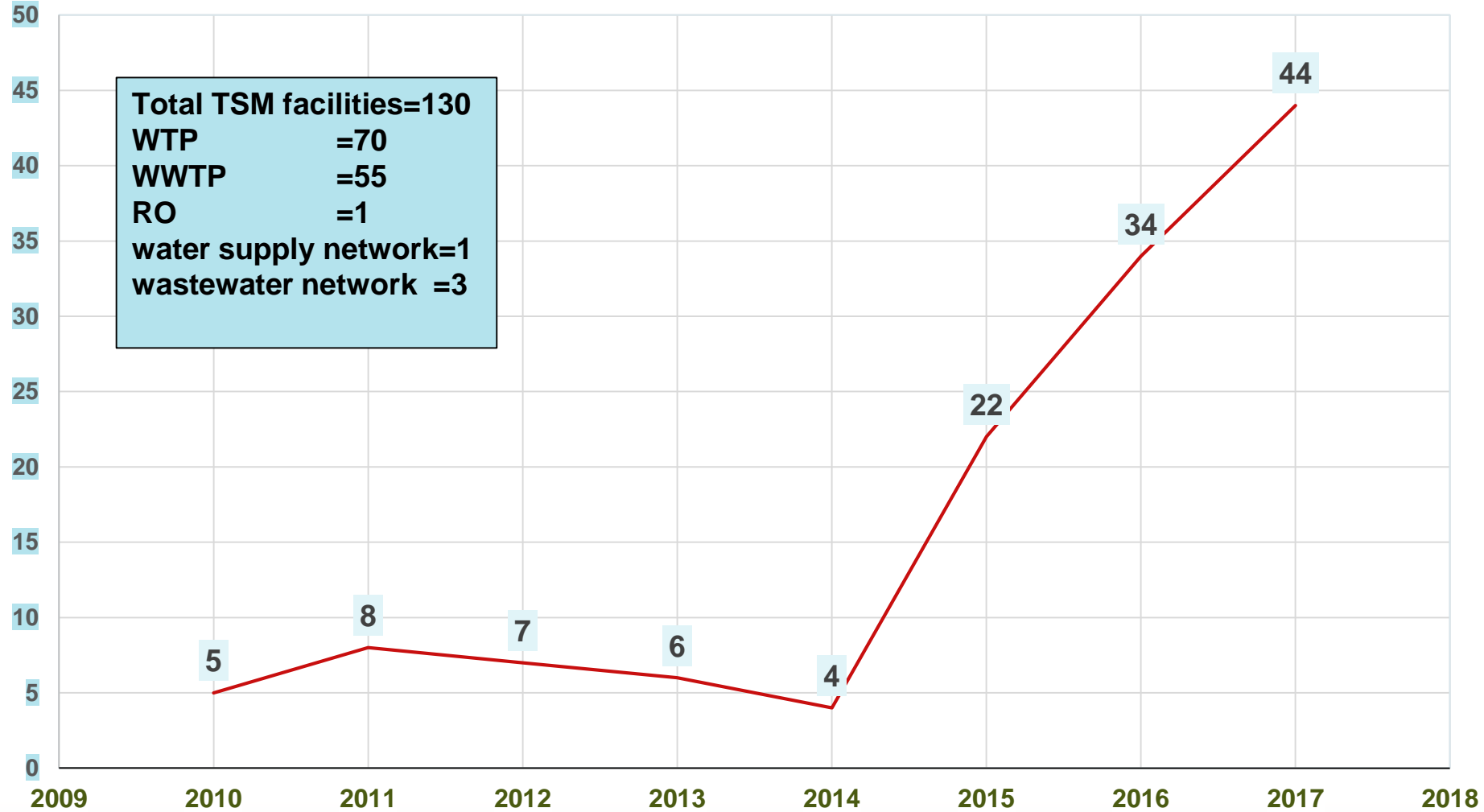
TSM web portal Key Benefits

- Seamless Communication
- TSM-Based Content
- Quality validated Processes

01-Oct-17 Standardization and Certification in Managing Water utilities in the Arab Region 3-5 December, 2013 in Algiers, Algeria



Number of TSM facilities from 2010-2017





As a federal enterprise, GIZ supports the German Government in achieving its objectives in the field of international cooperation for sustainable development.

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