

CSM[®]

Woongjin Chemical Co Ltd **Company Introduction**

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I. Corporate Profile



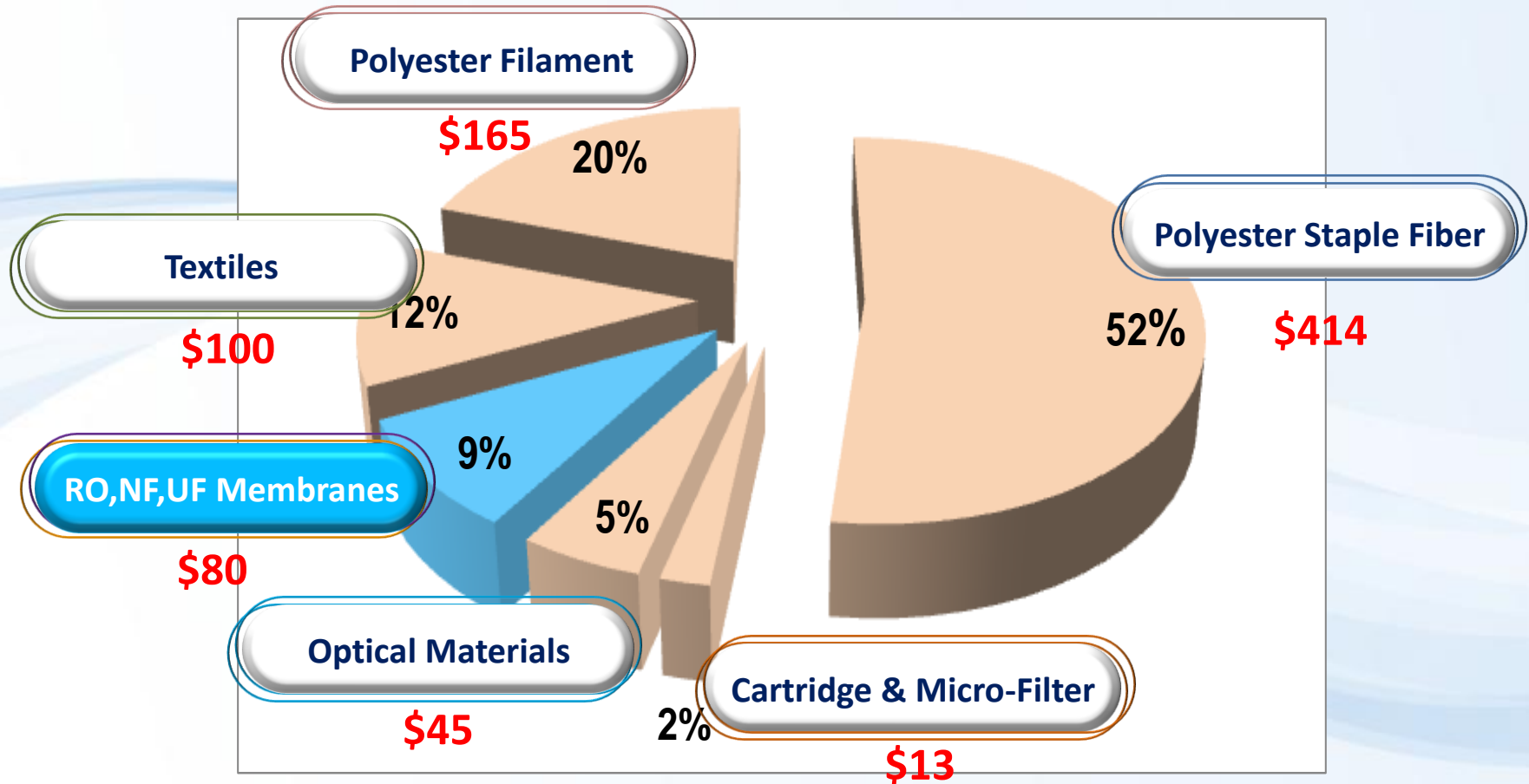


- Polyester Staple Fiber
- Polyester Filament
- Textiles
- Optical Materials
- Liquid Separation & Filtration
- New Materials



✓ Results of continuing operations for the year ended December 31st, 2010

units: million USD



Total Revenue : \$850 million USD
Total number of employees : 1,095



**Woongjin Chemical
Headquarters:
SEOUL, SOUTH KOREA**



**Coating Facility:
Gumi 1, South Korea**



**Rolling Facility:
Gumi 2, South Korea**



**Optical material facility:
Ansong, South Korea**



**Coating & Rolling Facility:
Yugu, South Korea**



- Incorporated in 2009
- Provides services to the entire western hemisphere
- A manufacturing facility in California opened in spring 2011

II. Membrane Business Field

Prior to 2000

1972 Incorporation of Cheil Synthetics Inc.

1994 Start of RO membrane manufacturing business

1995 Completion of RO manufacturing facility

1997 Company name changed to Saehan Industries, Inc.

1998 First in the world to develop the Pumpless High Flux RO membrane for residential applications

2000 and onwards

2000 Received NSF 58 & 61 Certifications for selected reverse osmosis membrane elements

2006 Completion of Gumi Production Facility 2 for RO membrane rolling

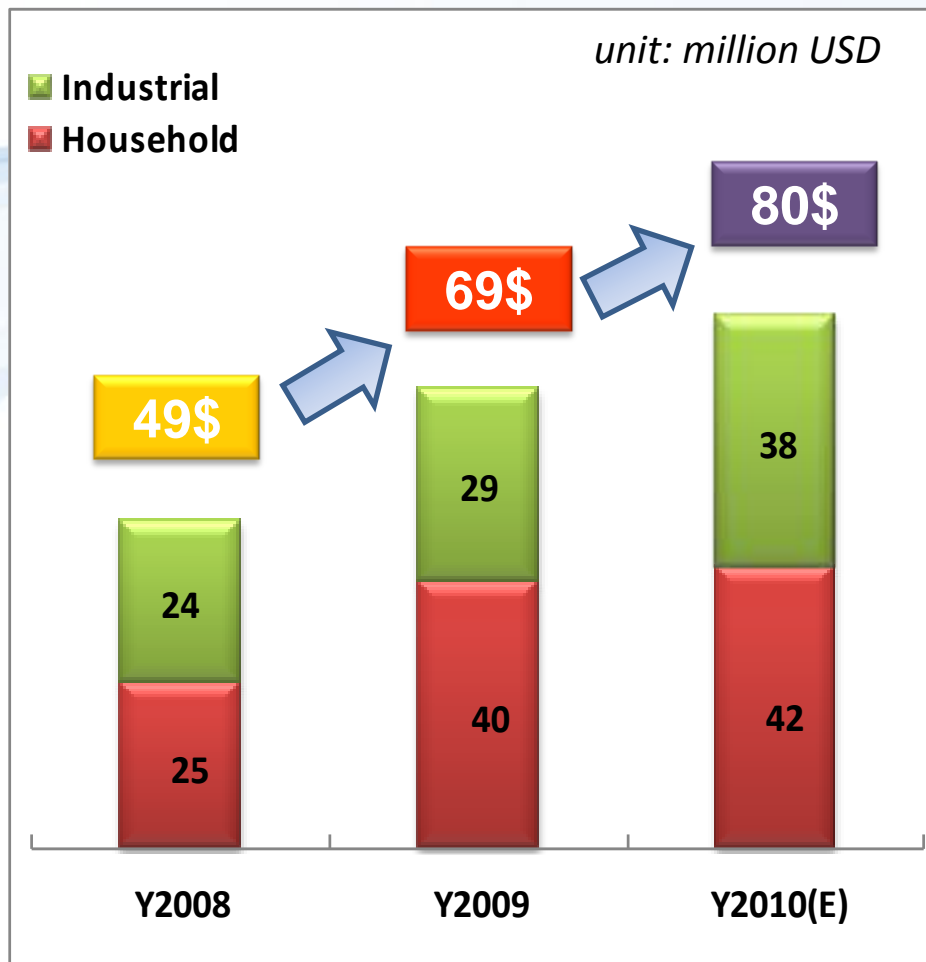
2008 Acquired by the Woongjin Group; company name changed to Woongjin Chemical Co Ltd.

2009 Incorporation of Woongjin Chemical America Inc.

2010(1) Operating of Branch Office in Dubai & Singapore

2011 Opening of RO production facility in California

RO Membrane Sales Amount



Production Capacity

Coating



Flat Sheet
12,000,000 m²/year

Element



2 inches
3,500,000 pcs/yr

4 inches
100,000 pcs/year



8 inches
100,000 pcs/year

Sales Forecast

unit: million USD

2009

\$69

2015

\$150

Innovative Membrane Technologies

▶ Manufacturing facilities:

1. Gumi 1 & 2, South Korea
2. Yugu, South Korea
3. Tianjin, China
4. California, USA (opening in Feb '11)

▶ Main products:

Spiral-wound RO, NF, UF

▶ Markets served:

Municipal
Industrial

Commercial & Residential



Product Category

Applications

Reverse Osmosis

- Brackish Water Membrane
- Low Pressure Membrane
- Fouling Resistant Membrane
- Ultrapure Water Membrane
- Seawater Membrane
- Residential Membrane

- Municipal/potable water
- Process or boiler water
- Pharmaceuticals
- Semiconductor rinsing
- Commercial & residential water purification systems

Nanofiltration

- Nanofiltration Membrane

- Water softening
- Food concentrations
- Dye recovery
- Pretreatment for SW desal

Ultrafiltration

- Ultrafiltration Membrane
 - ✕ Spiral-wound

- Removal of particulate matter and suspended solids

Coating, Casting, Rolling



Polyamide Coating



Module Configuration



Aging

Performance & Integrity Testing



Integrity Testing



Performance Testing



Warehousing

III. Market Presence

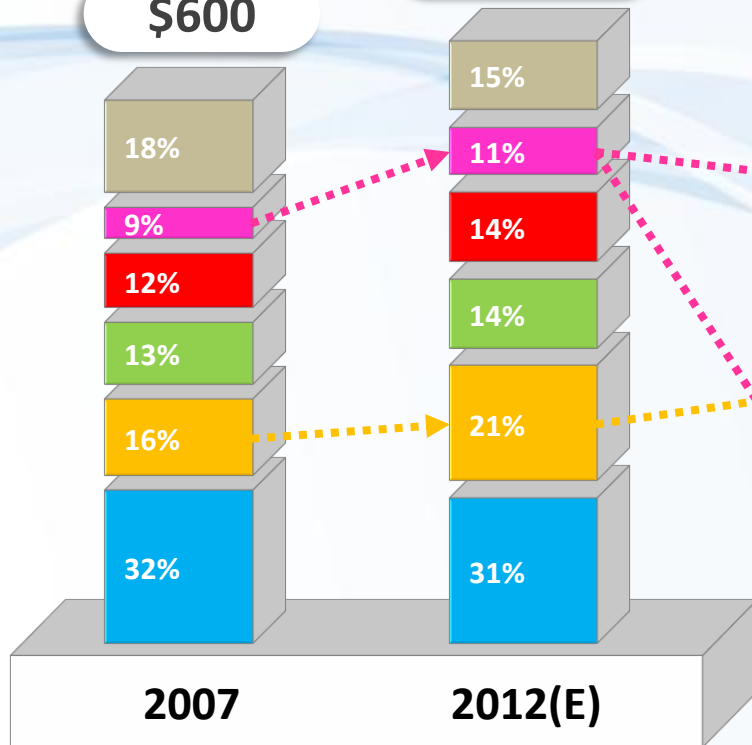


▷ **CAGR 10%**

unit: million USD

\$600

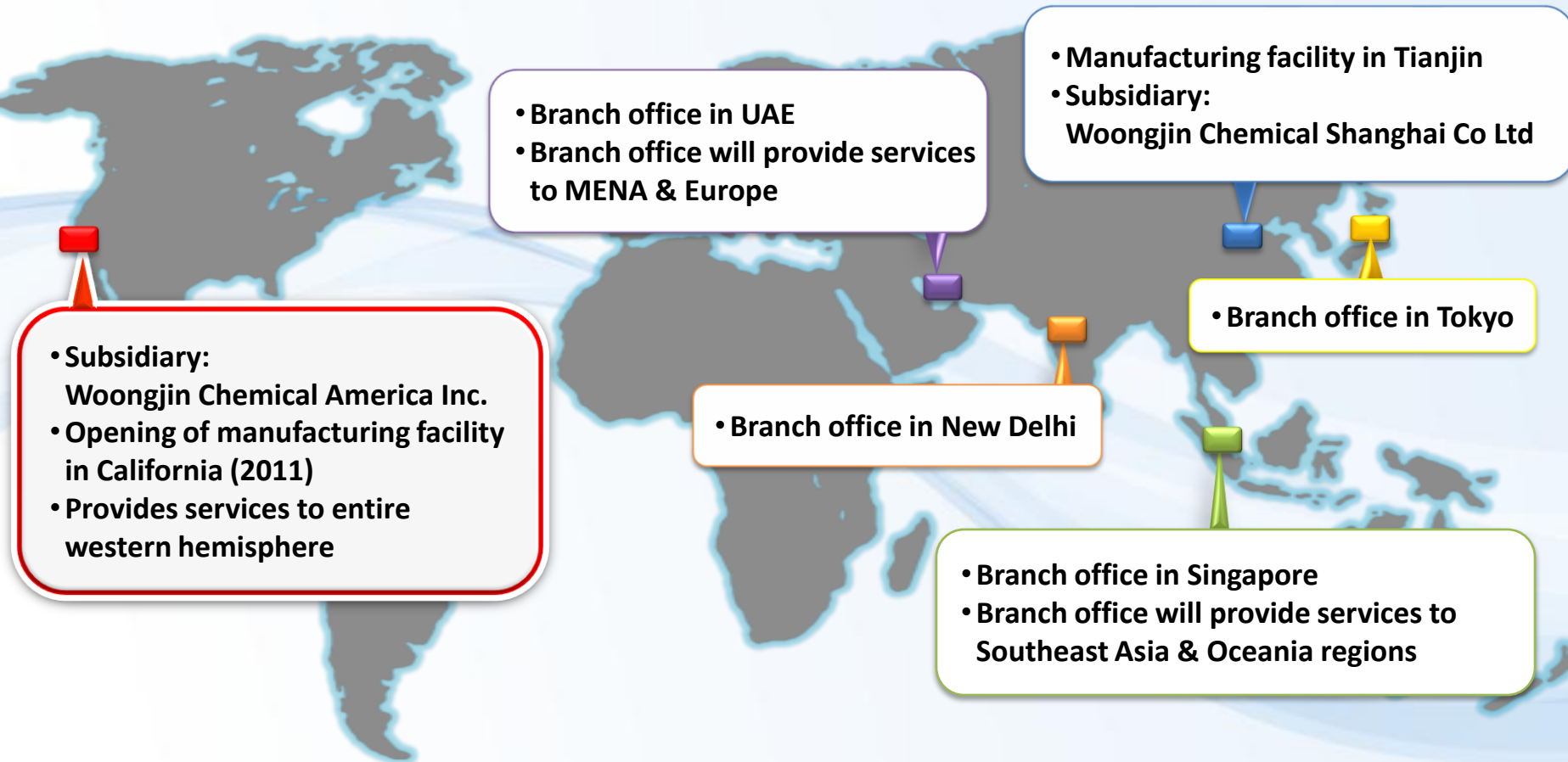
\$1 billion



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- 1 Depleting water sources
Increased demand for wastewater & water reuse applications
 - 2 High water scarcity in US & MENA regions
Increased demand for large-scaled desalination plants
 - 3 Rising surface water pollution
Increased demands for fouling resistant products

Source: MEMBRANE TECHNOLOGY FOR LIQUID AND GAS SEPARATIONS (BCC Research 2008)





USA MENA India China Japan Singapore

CUSTOMER	SITE / APPLICATION	LOCATION	MODEL(s)	CAPACITY	DATE
Fajr Petrochemical Company	Fajr (Process Water)	Bandar Imam Khomeini, Iran	RE8040-BR RE8040-BN	93.700 m ³ /day	APR 2006
Tabriz Petrochemical Co.	(Boiler Feed / Process Water)	Tabriz I.R of IRAN	RE8040-BN	24,000 m ³ /day	APR 2008
Esfahan Refinery	(Boiler Feed / Process Water)	Esfahan I.R of IRAN	RE8040-FEN	15,000 m ³ /day	JAN 2011
West Basin MWD	Exxon Mobil (Wastewater Reuse)	California, USA	RE8040-FE ⁿ	2.6 MGD (504 pieces)	DEC 2009
East Bay MUD	East Bay Rare Project (Wastewater Reuse)	California, USA	RE8040-FE ⁿ	4.0 MGD	APR 2010
Bayovar Mines	Bayovar Mines (Seawater Desalination)	Bayovar, Peru	RE8040-SHN400	2.9 MGD	2010

MWD = Municipal Water District; MUD = Municipal Utility District; WTP = Water Treatment Plant; WRF = Water Recycling Facility; WRP = Water Reclamation Plant

CUSTOMER	SITE / APPLICATION	LOCATION	MODEL(S)	CAPACITY	DATE
Veolia Water	Illawara WRP (Sewage Water Reuse)	Wollongong, Australia	RE8040-FE ⁿ	20 MLD (1,288 pieces)	APR 2008
Brisbane Water	Luggage Point WRP (Wastewater Reuse)	Brisbane, Australia	RE8040-FE ⁿ	3.17 MGD (1,116 pieces)	MAR 2008
United Utilities	Yabulu WRF (Wastewater Reuse)	Townsville, Australia	RE16040-SHN RE8040-BR440 RE8040-BE RE8040-BLR	10.7 MLD	APR 2009
Veolia Water	Kranji WRP (Wastewater Reuse)	Kranji, Singapore	RE8040-FE	19.0 MGD (1,022 pieces)	FEB 2006
PUB	PUB Bedok Phase II Extension (Wastewater Reuse)	Singapore	RE16040-BLR	8,000 MLD	JUN 2008
Gloucester County	Gloucester WTP (Municipal/Potable Water)	Virginia, USA	RE8040-BE	2 MGD (? pieces)	AUG 2009

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WRP = Water Reclamation Plant*

CUSTOMER	SITE / APPLICATION	LOCATION	MODEL(s)	CAPACITY	DATE
United Utilities	Koh Samui Desalination Facility (Potable Water)	Koh Samui, Thailand	RE8040-SHN400	150 m3/day	NOV 2009
REQ	Phuket Desalination Facility (Potable Water)	Phuket, Thailand	RE8040-SHN400	1,500 m3/day	MAR 2009
Province of Jeju	Jeju Desalination Facility (Municipal/Potable Water)	Chuja Island, South Korea	RE8040-SHN	1,000 m3/day	APR 2009
Samsung Electronics	(Semiconductor Rinsing)	Hwasung, South Korea	RE8040-UR RE8040-UL	108,000 m3/day	
Samsung Total	(Boiler Feed / Process Water)	Daesan, South Korea	RE8040-FD	70,000 m3/day	
West Basin MWD	Edward C. Little WRF (Wastewater Reuse)	California, USA	RE8040-FE ⁿ	3.17 MGD (1,116 pieces)	MAR 2008
US National Parks	Furance Creek Water Plant (Municipal/Potable Water)	California, USA	RE8040-BE RE8040-BLR	300 GPM (? pieces)	MAR 2009

MWD = Municipal Water District; WTP = Water Treatment Plant; WRF = Water Recycling Facility; WRP = Water Reclamation Plant

Thank You!

WOONGJIN CHEMICAL CO.,LTD

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