

2012 Polyurethane Industry Events Review—Newly-built

Global Polyurethane products sales volume has reached 40.6 billion dollars in 2011 and will achieve 57.4 billion dollars by 2016 with the compound annual growth rate at 7.2% from 2012 to 2016, as a polyurethane market report said, Asia-pacific region ranked the largest market with increasing investment flowing into the area and more and more polyurethane-related plants being built.

China also has become much more independent in terms of polyurethane feedstocks supply amid operation of newly-built plants and rapid capacity expansion, such as Bayer MaterialScience's TDI plant in Shanghai, which started commercial operation in November, 2011 and Yantai Wanhua's MDI capacity augmentation that was carried out from June to July, 2012.

India, as one of the major rising economic power, outstands in Asia-pacific region and is going to be an attractive investment place followed China with cheaper cost and large market potential for polyurethane feedstocks, intermediates and products.

PUdaily hereby would like to give summaries and help readers gain general ideas on these events happened in 2012 by presenting in the form of keywords: NEWLY-BUILT. And summaries on other keywords including expansion, cooperation, acquisition, price hike, new products will be updated in following days.

Air Liquide

Air Liquide Announces Start up of New Steam Methane Reformer in La Porte, Texas



April 25, 2012-Air Liquide held a ribbon cutting ceremony to mark the formal startup of a new Steam Methane Reformer (SMR) in La Porte, Texas, USA.

The SMR has the capacity to produce 120 million standard cubic feet per day of gaseous hydrogen, which will supply to refineries in Port

Arthur.

Hydrogen is used in the oil refining process to convert heavy crude oil into clean burning transportation fuels and petrochemical feed stocks.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=30483>

AkzoNobel

AkzoNobel Inaugurates R&D Centre in India

Oct.29, 2012- AkzoNobel has launched a new initiative at its International Research Centre at Bangalore known as India Analytical Center (IAC), which will provide analytical services to fulfill the needs of



decorative, industrial, protective or automotive coatings; also, it will the process capability to evaluate and certify raw materials, intermediates and products in India.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35038>

BASF

BASF Opened Plant in India and PU Systems House in China

Apr.12, 2012-BASF India Limited has invested €150 million to set up a new chemical production site at the Dahej Petroleum, Chemicals and Petrochemicals Investment Region (PCPIR) to ensure local supply for



growing markets and industries, including appliances, footwear, automotive, construction, adhesive, architectural coatings.

The new site will be an integrated hub for polyurethane manufacturer and startup is expected to take place in 2014

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=30036>

May 8, 2012-BASF celebrated the official opening of BASF's new North American headquarters building at 100 Park Avenue in Florham Park, New Jersey. As one of New Jersey's largest sustainable building with a cover of 325,000 square foot, is designed to achieve LEED (R) double Platinum* certified.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=30736>

September 6, 2012 -BASF has opened a new research lab for thermoplastic polyurethanes (TPU) in Wyandotte, Michigan. A multidisciplinary team of product developers, chemists and material scientists will work to discover new products for the American automotive, construction, sports and leisure industries

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=34215>

Oct.18, 2012-BASF opened its first PU system house in Tianjin, North China, where the PU market has



been experiencing above average growth, aiming to further expand its global service and production network by delivering customized PU solutions to its customers, supported by local production, in-house sales, technical service and development teams.

Tianjin PU system house is BASF's eleventh one in Asia Pacific and the third in Mainland China. The other two PU system houses are in Shanghai and Guangzhou.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=34835>

Nov.6, 2012-BASF is investing approximately €90 million in the first step to build a mobile emissions



catalysts production facility in Środa Śląska, a Special Economic Zone near Wrocław, Poland. Construction of the new 40,000 square meter facility – BASF's largest in Europe – will begin before the end of 2012.

The plant will start production in the first quarter of 2014.

Additional expansion will follow, raising the total investment volume for the project to approximately €150 million. Once all 10 planned light duty and heavy duty production lines are operating at full capacity by 2016, BASF expects to employ more than 400 people at the new site.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35102>

Nov.6, 2012-BASF inaugurated its first Innovation Campus Asia Pacific and its new Greater China headquarters in Pudong district, Shanghai, China, which is regarded as BASF's third-largest market worldwide.



The €55 million expansion of BASF's site in Pudong, Shanghai, where the new facilities are located, will focus on advanced materials that can be applied in sustainable construction, energy efficiency lighting,

footwear and biobased integrated base¹.

Meanwhile, a vice chairman of Board of Executive Directors of BASF said on the inauguration that the company's Chongqing 400,000 tons/year MDI project is under construction and it is expected to start operation in 2014².

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35120>¹

<http://www.pudaily.com/News/NewsView.aspx?nid=35125>²

Nov.28, 2012-BASF has broken ground on its 300,000 tons toluene di-isocyanate (TDI) project at its



Ludwigshafen petrochemicals production hub in Germany on Nov.23 and the plant is expected to come on stream by the end of 2014¹.

BASF is investing about €1bn (\$1.3bn) in the project. That sum includes investments in infrastructure and TDI precursor capacities, it said. The new plant will create about 200 jobs.

BASF had announced the project at Ludwigshafen in February².

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35433>¹

<http://www.pudaily.com/News/NewsView.aspx?nid=28631>²

-----Bayer MaterialScience-----

Bayer Started TDI Construction in Dormagen, Germany



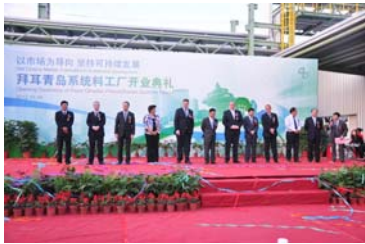
Feb. 23, 2012-Bayer MaterialScience has started early construction of 300,000tons/year TDI plant in Dormagen¹ while the final operating permit is expected in the spring (BMS has already got official permit on Jan.7, 2013²).

With investment of Euro 150 million, the new facility will reduce energy consumption by up to 60 percent and require as much as 80 percent less solvent compared with a conventional plant with the same capacity; startup operation is expected to take place in 2014.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=28832>¹

<http://www.pudaily.com/News/NewsView.aspx?nid=36117>²

Oct. 15, 2012-Bayer MaterialScience inaugurated its new polyurethane systems house in Qingdao. The new systems house is equipped with state-of-the-art production facilities, offering customized



polyurethane systems based on leading technology.

Together with the global network of the other 30 downstream production facilities and supported by R&D and technical centers worldwide, the new systems house will serve customers in diverse industries including construction, appliance, furniture, automotive,

logistics and cold chain.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=34853>

-----**Brenntag**-----

Brenntag Inaugurated New Head Office in Mumbai, India



Feb.23, 2012-Brenntag inaugurated its new head office in Mumbai, India, adding to adds to the company's six existing offices located in all major industrial locations in India and Brenntag's growing presence in the Asia Pacific region, which includes more than 40 offices in 15 countries

Brenntag established its presence in India in 2008 and focuses on various industry segments such as agro, coatings, food and beverage, leather, lubricants, personal care, pharmaceuticals, plastics and polymers, polyurethanes, solvents and textiles.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=28838>

-----**COIM**-----

COIM Inaugurates New R&D Center in Italy



Mar.6, 2012-COIM has inaugurated its new R&D center in Offanengo, Italy; the center is designed to research the field of polyurethane specialties, including host cast elastomers, laminating adhesives and heat seal coatings.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=29153>

-----**Dow**-----

Dow Chemical Opened Office and Plants in Chengdu, Thailand, and Saudi Arabia



Mar.1, 2012-Dow Chemical announced the opening of its new office in Chengdu, Sichuan province; the new office will provide services and support to customers across many industries. Dow will also investigate future investment

opportunities to extend its logistics and manufacturing footprint in Western China.

Together with the newly-opened office, Dow now operates 18 manufacturing sites and 7 business centers across the Greater China region ¹.

Mar.27, 2012-Dow Chemical officially announced the grand opening of its new production complex in Asia Industrial Estate (AIE), Rayong Province, Thailand.



A portion of an investment totaling more than \$3 billion, the new production complex is a joint venture project between Dow, SCG and Solvay S.A. under the project named Thai Growth Project. The project, which was announced in 2006, has involved the building of world-class production facilities including an advanced naphtha cracker plant operated by Map Ta Phut Olefins Co., Ltd. (JV between Dow and SCG Chemicals), and downstream facilities to produce polyethylene (SPEII), specialty elastomers, propylene oxide and hydrogen peroxide, operated by Solvay. The successful completion of all plants under the Thai Growth Project makes Thailand Dow's largest manufacturing base in Asia Pacific ².

Mar. 28, 2012-Dow Chemical inaugurated polyurethane systems house on Mar 28 in Jeddah, Saudi Arabia in partnership with the new Arabian Chemical Polyurethane Systems House, a branch of Juffali Chemical Products Co., Ltd.

The new Polyurethane (PU) Systems House plant will provide innovative and tailored solutions to customers in the Kingdom and neighboring Gulf States in a variety of markets and applications ³.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=29075> ¹

<http://www.pudaily.com/News/NewsView.aspx?nid=29745> ²

<http://www.pudaily.com/News/NewsView.aspx?nid=30055> ³

Dow Automotive Opens Two Development Facilities for Adhesive Resins

Jul.31, 2012-Dow Automotive Systems is expanding its capabilities in composite processing technology with the open of two Dow development facilities in Freienbach, Switzerland and Midland, Michigan, USA. These laboratories support the advancement of strategic relationships with automotive and commercial transportation customers with an emphasis on carbon fiber composites.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=33244>

-----Evonik-----

Evonik Set Up New Production Plants in Shanghai, and Office in Chengdu



Jan.17, 2012-Evonik Industries has broken ground to start of the construction of a new organics production facility at its wholly owned Multi-User Site (MUSC) in Shanghai Chemical Industry Park.

The new facility will have 80,000 tons/year capacity of specialty surfactants and other ingredients based on renewable raw materials for the personal care, household care and industrial specialties sectors in Asia-pacific region; it's expected to come on stream in 2013 ¹.

In parallel, **Evonik is spending €23 million to expand its R&D centre at Xinzhuang, Shanghai**, including updated laboratories for R&D, application technology and technical service.

Jan.17, 2013- **Evonik also will open a new branch in Yanlord Landmark, the heart of Chengdu's central**

business area, Sichuan province in the first quarter of 2012².

Jun.19, 2012- **Evonik Industries will hold the ground-breaking ceremony for new isophorone and isophorone diamine plants** in the Shanghai Chemical Industry Park (SCIP). With an investment of more than €100 million, the plants are scheduled to come on stream in the first quarter of 2014 after completion of a roughly two-year construction phase.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=29666>¹

<http://www.pudaily.com/News/NewsView.aspx?nid=28036>²

-----**Henkel**-----

Henkel New 22ktpa Adhesives Factory to Come on Stream



Jun.11, 2012-Henkel announced on June 8 its new adhesives factory in Hungary coming on stream, producing 22,000 tons per annum with total capital of 15,000,000 euros. Products will be applied into electronic, packaging and panels industries.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=31758>

-----**Huafon**-----

Huafon Builds New Adipic Acid Plant in Chongqing and Benzene Plant in Liaoning



Dec.18, 2012-China Chongqing Huafon held break ground ceremony to start the construction of new 480,000 tons of adipic acid in Chongqing province.

The company has already established cooperation with local companies, including Sinopec and BASF¹.

Dec.18, 2012-Zhejiang Huafon is planning to set up a new benzene plant in Liaoyang, Liaoning province and the construction is expected to begin in March, 2013. The plant will have a capacity to produce 120,000 tons of cyclohexanone by the chemical process of benzene and hydrogen cyclohexane oxygen. The plant is expected to realize 1.3 billion Yuan of sales income².

PUdaily News Link: <http://www.pudaily.com/News/NewsView.aspx?nid=35841>¹

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35768>²

-----**Huntsman**-----

Huntsman Opens Office in Poland and PU Systems House in Indonesia

Apr.20, 2012-Huntsman Corporation opens a new service center in Warsaw, Poland, strengthening the capabilities of its Polyurethanes and Performance Products businesses across Central and Eastern Europe, and the Baltics - territories where MDI demand is growing steadily.

Located in the commercial district of Warsaw - close to the airport and Huntsman's major local customers



Enriching lives through innovation

- the service center includes a sales office, an analytical laboratory, and a meeting facility. A warehouse will also open on site in due course ¹.

Jul. 26, 2012-Huntsman's Polyurethanes division has opened a systems house focusing on specialties and differentiated products at its Gandaria site, near Jakarta, Indonesia.

The plant has been purpose-built to produce pre-polymer and polyol blends for Indonesia's fast-growing MDI systems market - with a particular focus on the insulation, automotive and footwear segments – and has a fully equipped technical laboratory to test and develop new products ².

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=30284> ¹

<http://www.pudaily.com/News/NewsView.aspx?nid=33185> ²

-----ILAG-----

ILAG Inaugurates Its New Premises in Wangen, Switzerland



Sept.20, 2012-Coating producer Looser Group company Industrielack AG (ILAG) formally inaugurated its new business premises in Wangen, Central Switzerland with an investment of CHF 18 million, accommodating the company's administrative offices, laboratories, production facilities, warehousing and common areas over some 6,700 square metres.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=34470>

-----Invista-----

Invista Opened Textile Application Research Center in Shanghai and Plant in Singapore



Jul. 26, 2012-Invista announced the completion of its first Textile Application Research Center in Shanghai, with an area of 3000 square meters with total investment of \$ 7.3 million.

Invista has other three research centers in the United States, Italy and China Taiwan ¹.

Nov.27, 2012-Invista has launched a new production line in Tuas, Singapore, to produce Easy Set Lycra fiber, a special type of Lycra fibre to be used with sensitive fibres, such as silk or cellulose and with moulded applications to meet increasing demands from the Asian region.

The plant produces Lycra fibre with W Technology as well as T-162L Lycra fibre and Lycra HyFit fiber ².

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=33143> ¹

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35376> ²

-----Mitsui Chems-----

Japan's Mitsui Chems to Start up Polymeric Materials Firm in China

Sept.7, 2012-Japan's Mitsui Chemicals, Inc. announced establishment of Mitsui Chemicals Functional Composites (Shanghai) Co., Ltd in Jinshan District, Shanghai to produce and sell Milastomer™ and Admer™ in line with growing demands in China.



Milastomer™, a thermoplastic olefinic elastomer widely used in glass run channels for automobile windows and in sheathing applications, and Admer™, a polyolefin widely used as an adhesive for automobile fuel tanks and food packaging.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=34218>

-----**Johnson Controls**-----

Johnson Controls Opens New Seat Plant in Romania, China



Feb.2, 2012-Johnson Controls has Johnson Controls has officially opened a new seat factory in Craiova, Romania to supply seat systems for Ford in tandem with growing automotive markets in Romania.

Johnson Controls invested €10 million in the new seat factory, which is located next door to the Ford plant.

JCI recently acquired the automotive business of Romanian company Spumotim which included two polyurethane foam plants in Timisoara and Poiana Lacului ¹.

Dec.26, 2012-Johnson Controls will invest in another 10 auto seating plants in China despite slowdown in domestic automotive industry as the company think China remains the largest growth potential global and it's an good option to offset slow down in Europe ².

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=28273> ¹

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35931> ²

-----**Lanxess**-----

Lanxess Opens Office in Chengdu, and Testing Center in Dormagen



Dec. 20, 2012-Lanxess opened its Chengdu office to enhance its presence in southwest China and further reinforces its business network in western China ¹.

Lanxess has 10 subsidiaries in China with 3 joint ventures and 6 R&D centers; the company has offices in Beijing, Guangzhou and Hong Kong, adding to its headquarters in Shanghai.

Mar.27, 2012-Lanxess opened Material Testing Center (MTC) in Dormagen, Germany to determine the material data for the most important load scenarios for thermoplastic materials, such as their fatigue, crash and creep properties. Lanxess also supplies polyamide 6 and 66 and polybutylene terephthalate in its Durethan and Pocan compounds ².

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35886> ¹

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=29676> ²

Foam Supplies Inc.

Foam Supplies Inc. Expands Into India

Jun.13, 2012-Foam Supplies Inc. (FSI) of St. Louis, MO, USA, recently announced the formation of Foam Supplies India Pvt. Ltd. Focusing primarily on the distribution of Ecomate, a non-ozone depleting, and no global warming potential polyurethane foam blowing agent technology based on methyl formate, in Asia and the Pacific.

The India office will be fully functional starting January 2013 but product will be available starting July 2012.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=31850>

PolyOne

Polyone Opened Innovation Center in Korea and to Build Facility in South Africa

Sept.10, 2012-Polyone opened an Innovation Center in Seoul, which is equipped with the full portfolio of capabilities from PolyOne Color & Additives Asia as well as ColorMatrix's DosiXpress™ rapid colour development cell, an advanced liquid colorant system that typically reduces color development time from weeks to hours¹.

Jun.27, 2012-PolyOne Corporation has announced plans to open a new facility in the Montague Gardens industrial precinct in Cape Town, **South Africa** to serve customers throughout Africa.

The facility is expected to open in August 2012, providing services such as sales, technical support and rapid color development through the on-site color laboratory².

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=34527>¹

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=32270>²

Praxair

Praxair China to Construct ASU Plant in Jiangsu

Oct.25, 2012-Praxair China has entered into a long-term contract with Oxiranchem Yangzhou to construct and operate an air separation plant (ASU) with a capacity of 500tpd in their chemical park in Jiangsu province, east China.

The plant will provide oxygen and nitrogen to the Yangzhou Chemical Industry Park to produce 200,000tpa of ethylene oxide and 300,000tpa of derivative fine chemicals at the Oxiranchem Yangzhou project.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=34922>

-----RAMPF-----

RAMPF Constructed Plant for Manufacturing Polyols from PU Flexible Foam Waste



Dec.14, 2012-Rampf has since April 2012 been operation the world's first industrially usable plant for producing polyols from PU flexible foam waste by using the acidolysis process developed by RAMPF chemists.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35731>

-----SABIC-----

SABIC Links with Mitsui for TDI, MDI



Feb.28,2012-Saudi Arabia Basic Industries Corporation (SABIC)reached agreement with Japan's Mitsui Chemicals to produce toluene di-isocyanate (TDI), and methylene di-phenyl isocyanate (MDI) but costs, capacities or development timeframe has yet to disclose.

SABIC announced plan to manufacturer polyurethane in 2010 and this is an important step for the company.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=29009>

-----Saudi Aramco-----

Saudi Aramco Sets up Asian Headquarters in Beijing



Nov.14, 2012-The Saudi Arabian Oil Company, or Saudi Aramco, the integrated global petroleum and chemicals enterprise, has opened Aramco Asia in Beijing, which is a wholly-owned affiliate of Saudi Aramco and will serve as the business and cultural link between Saudi Aramco and China.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35212>

-----Sumitomo-----

Sumitomo Chemical to Open Sales Office in India



Nov.9, 2012-Japan-based Sumitomo mulls to open a sales office in India, most like in Bangalore in the next couple of years.

The company supplies 6.6 million pounds of Polypropylene annually to the India market through plants in Singapore and Thailand.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35144>

Toray

Toray to Construct Indonesian Resin Compounding Facility

Oct.19, 2012-Japan-based Toray has invested 600 million Japan Yen to build 6,000 tons of nylon and polybutylene terephthalate (PBT) resin compounding facility in Indonesia to meet the growing demands from automotive in the country. The facility is expected to go on stream in November, 2013.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=34839>

Wacker

Wacker Opens New Headquarters in Shanghai and Builds Technical Center in Mexico

Dec.19, 2012-Munich-base Wacker Chemie AG opened its new company headquarters in Shanghai for Greater China region, featuring offices for marketing, sales, administrative functions as well as many laboratories for R&D and applications technology¹.

Greater China region has evolved into the company's most important market and the company is to



increase its investment in China to more than €600 million in the next four years.

Nov.9, 2012-Wacker is extending its existing technical center in São Paulo, Brazil, and creating a new technical center in Mexico City, Mexico and is enlarging its technical center in Jandira, focusing on the labs for polymer binders and dispersible polymer powders respectively, driven by strong growth of the regional economy in middle and south America².

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35807>¹

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=35145>²

Wanhua

Wanhua International (India) Sets Up in Mumbai

Mar.21, 2012-China Wanhua has opened its subsidiary Wanhua International (India) in Mumbai, with registered capital of 10 million rupees, mainly engaging in chemicals imports and exports, in tandem with growing demands for polyurethane in India.



Wanhua opened its office in Mumbai, India in 2009 and has become a major polyurethane feedstocks supplier in local market.

India, one of major rising economic powers in the world, has witnessed rapid growth of its polyurethane industry with polyurethane products output at 320,000 tons in 2011.

PUdaily news link: <http://www.pudaily.com/News/NewsView.aspx?nid=29549>

TO BE CONTINUED