

LyondellBasell Italy overview

Luca Scanavini

Ferrara, 7-8 October 2008



The past

The Nobel lecture

From the Stereospecific Polymerization to the Asymmetric Autocatalytic Synthesis of Macromolecules

Macromolecular chemistry is a relatively young science. Though natural and synthetic macromolecular substances had long been known, it was only between 1920 and 1930 that Hermann Staudinger placed our knowledge of the chemical structure of several macromolecular substances on a scientific basis.

(...)

The achievement of these results has also been helped by the research I did in 1924 when I was a trainee student under the guidance of Professor Bruni. At that time I began to apply x-ray study of the structures of crystals to the resolution of chemical and structural problems.

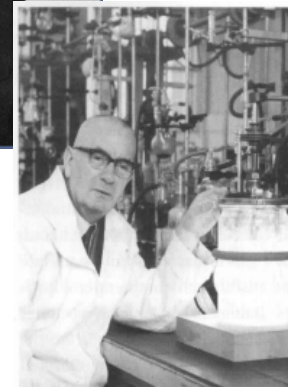
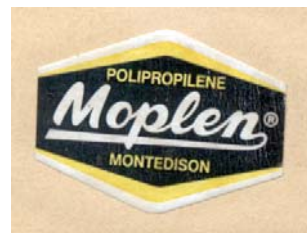
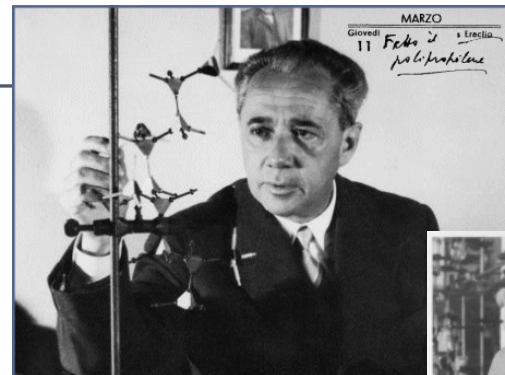
(...)

In view of the experience I had acquired in the field of chemical industry, certain Italian Government and industrial bodies entrusted me in 1938 with the task of instituting research and development studies on the production of synthetic rubber in Italy.

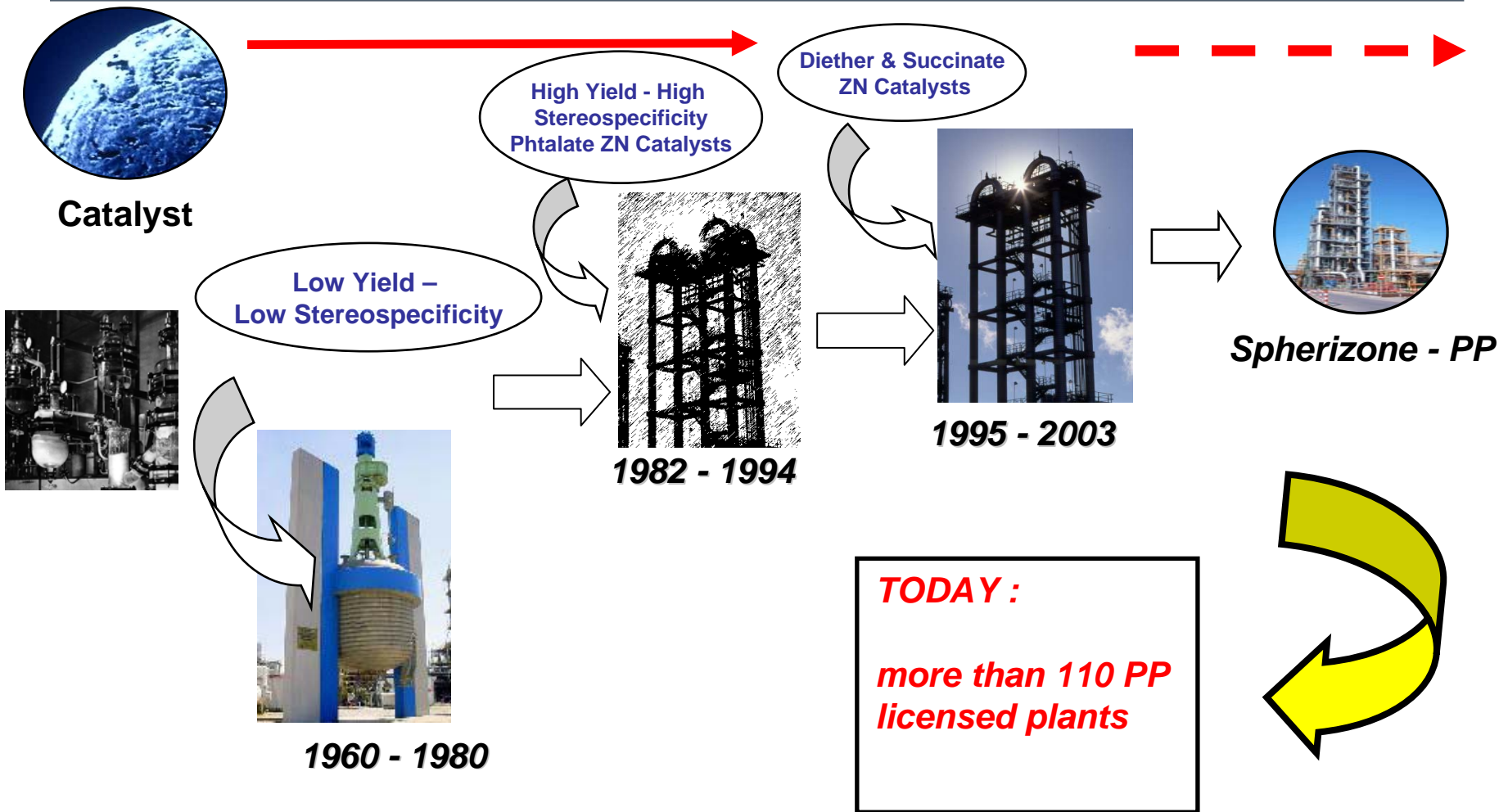
Thus the first industrial production of butadiene-styrene copolymers was realized in Italy at the **Ferrara plants**, where a purely physical process of fractionated absorption was applied for the first time to the separation of butadiene from 1-butene.

At that time I also began to be interested in the possible chemical applications of petroleum derivatives, and particularly in the use of olefins and diolefins as raw materials for chemical syntheses such as oxosynthesis and polymerization.

The knowledge acquired in the field of the polymerization of olefins enabled me to appreciate the singularity of the methods for the dimerization of α -olefins that Karl Ziegler described in a lecture delivered in **Frankfurt** in 1952; I was struck by the fact that in the presence of organometallic catalysts it was possible to obtain only one dimer from each α -olefin, while I knew that the ordinary, cationic catalysts previously used yielded complex mixtures of isomers with different structures. At this time I also became acquainted with Ziegler's results on the production of strictly linear ethylene oligomers, obtained in the presence of homogeneous catalysts.



Today



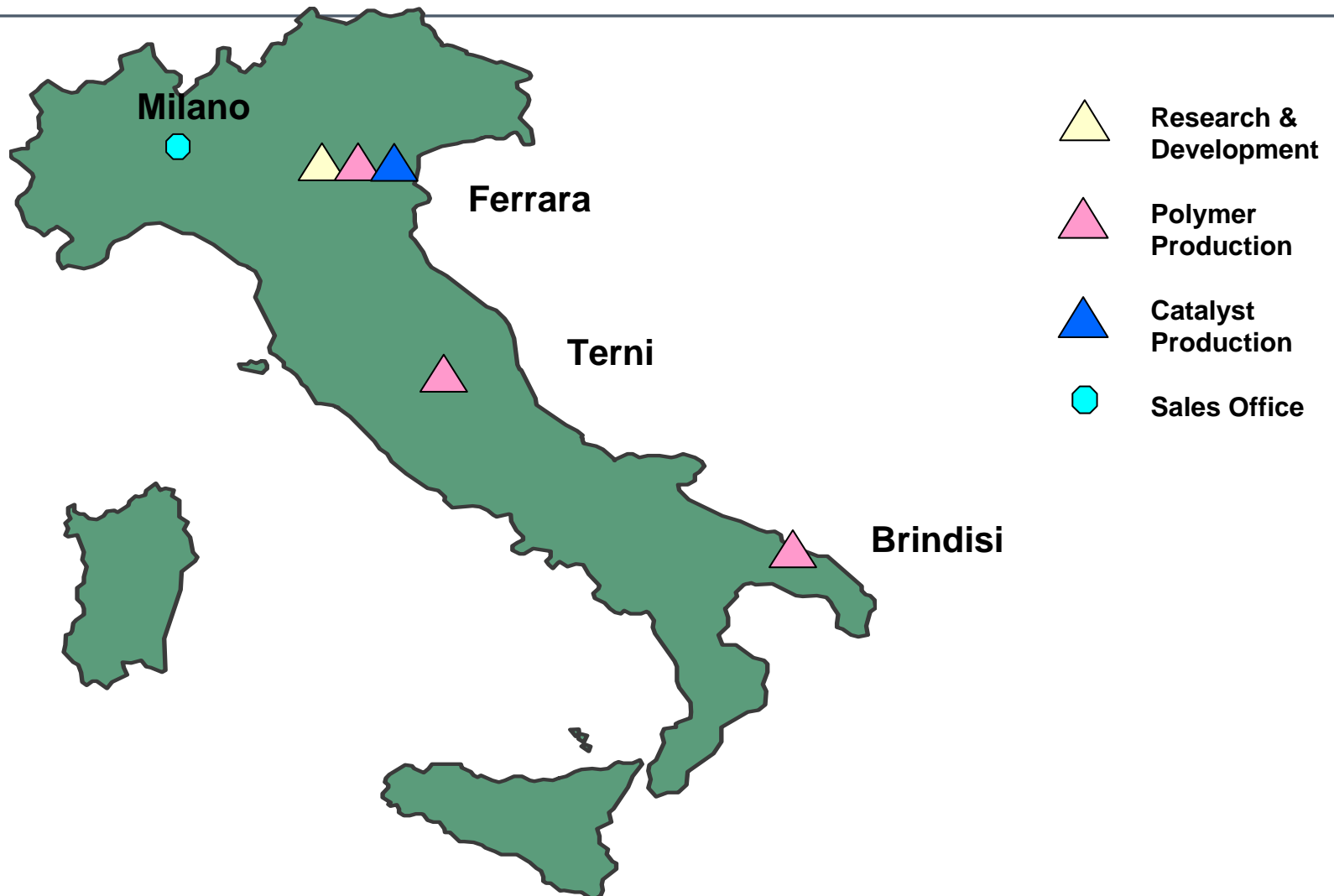
The product applications



ITALY



LyondellBasell Sites in Italy



LyondellBasell in Ferrara

R&D

- PILOT PLANTS
- LABORATORIES

CATALYST MANUFACTURING

- CATALYST
- SUPPORT

POLYMER MANUFACTURING

- POLYPROPYLENE
- CATALLOY

SHARED SERVICES (HSE&Q, HR, ADMINISTRATION, ...)



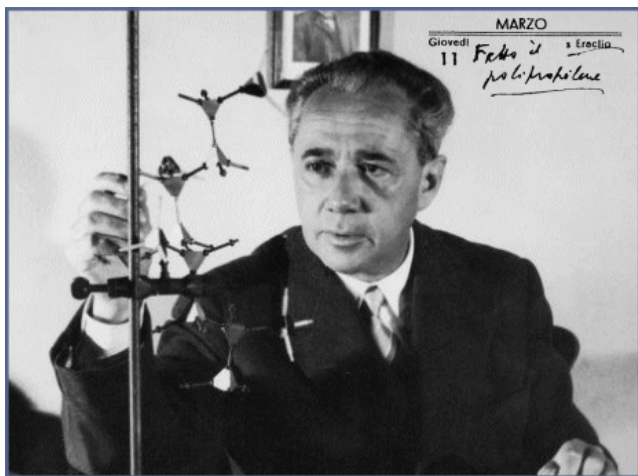


The
Company
evolution in
Ferrara
(from 1950
until today)

History of Ferrara Site

*On March 11th 1954
G.NATTA (Nobel PRICE
winner in 1963) wrote
on his agenda:*

"Polypropylene made"



1942 Ferrara complex started up by SAIGS (Synthetic rubber)

1950 Montecatini takes over the complex (Fertilizers and Petrochemical products)

1957 The first industrial PP plant in the world came on stream in Ferrara

1962 Monteshell (Montecatini & Shell JV) took over the petrochemical activities of the Site

1962 – 1982 After significant restructuring steps, the Site is controlled by Montedison producing Polyolefins (Montepolimeri), Ammonia & Urea (Fertimont) and R&D facilities with a strong focus on Polyolefins field

1983 Establishment of Himont (Hercules & Montedison JV)

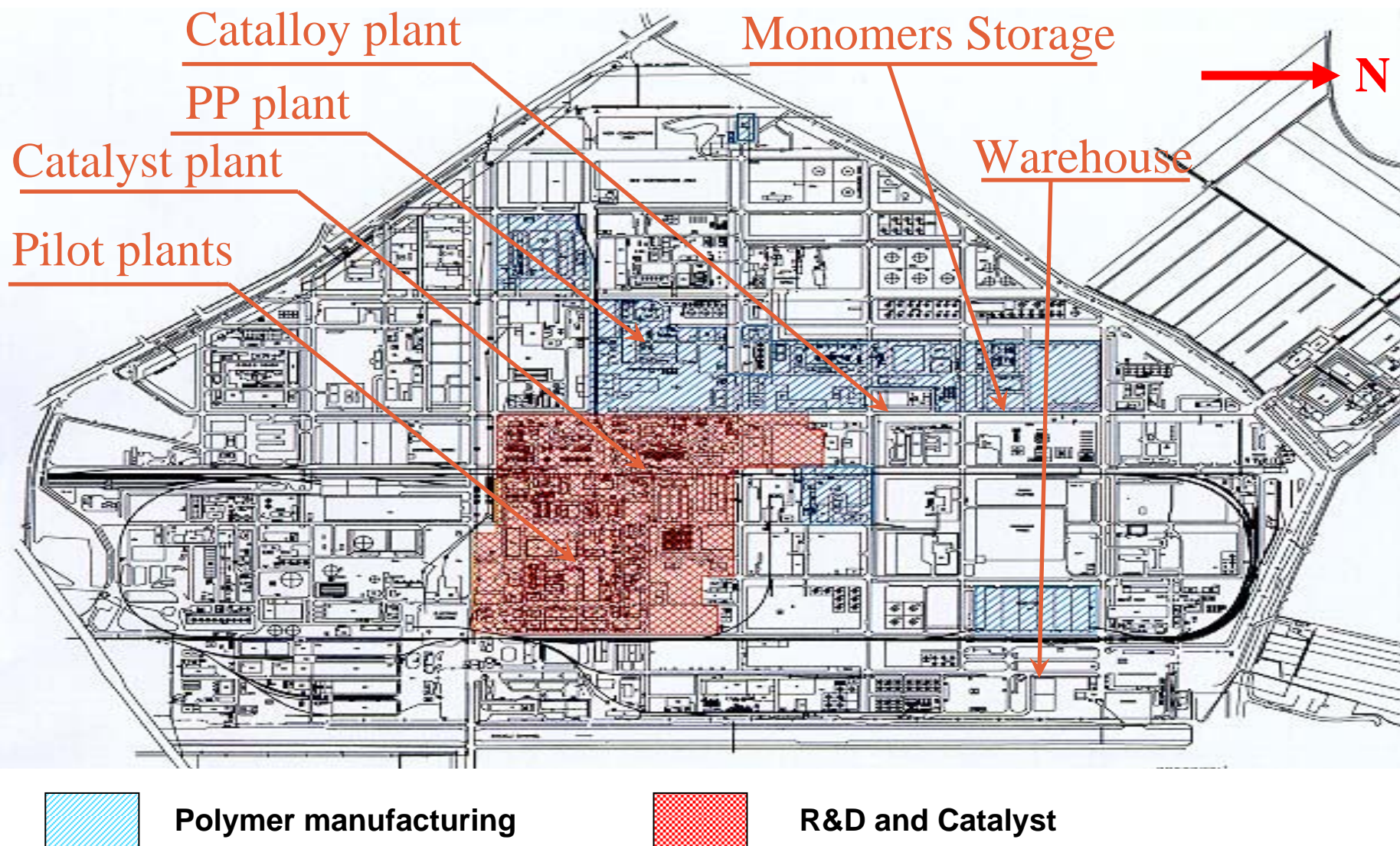
1995 Establishment of Montell (Montedison & Shell JV)

2000 Shell and BASF put together their Polyolefins businesses merging Montell – Elenac – Targor into BASSELL

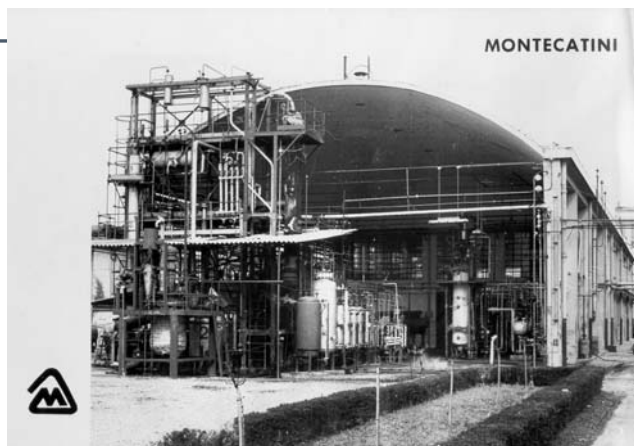
2005 Access Industries acquire Basell

2007 Basell & Lyondell merging

LyondellBasell in Ferrara



Ferrara “Giulio Natta” Research Center



Giulio Natta Research Center in Ferrara has been active in the Polyolefins since 1950, producing revolutionary catalysts, processes, products and applications.

The Center has about 500 researchers, the majority being high school graduates and more than 150 University graduates in chemistry, physics and engineering.

A unique feature of the Center is that the catalysts development and production plants are in the same area and fully integrated with the Research activities.

Ferrara “Giulio Natta” Research Center

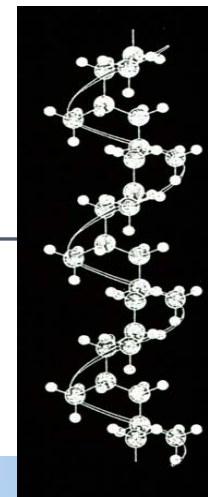
MISSION

- * To conceive, identify and transfer innovative technologies for the production of polyolefins on industrial and commercial scale.
- * To investigate, implement and commercialise new: Catalysts - Processes - Products.
- * To guarantee and provide technology transfer and technical assistance for the production plants of both LBI and Licensees.
- * To provide the customers the most reliable and timely response to all application problems by qualified research personnel.



“G.Natta” R&D Ferrara: A history of ‘firsts’

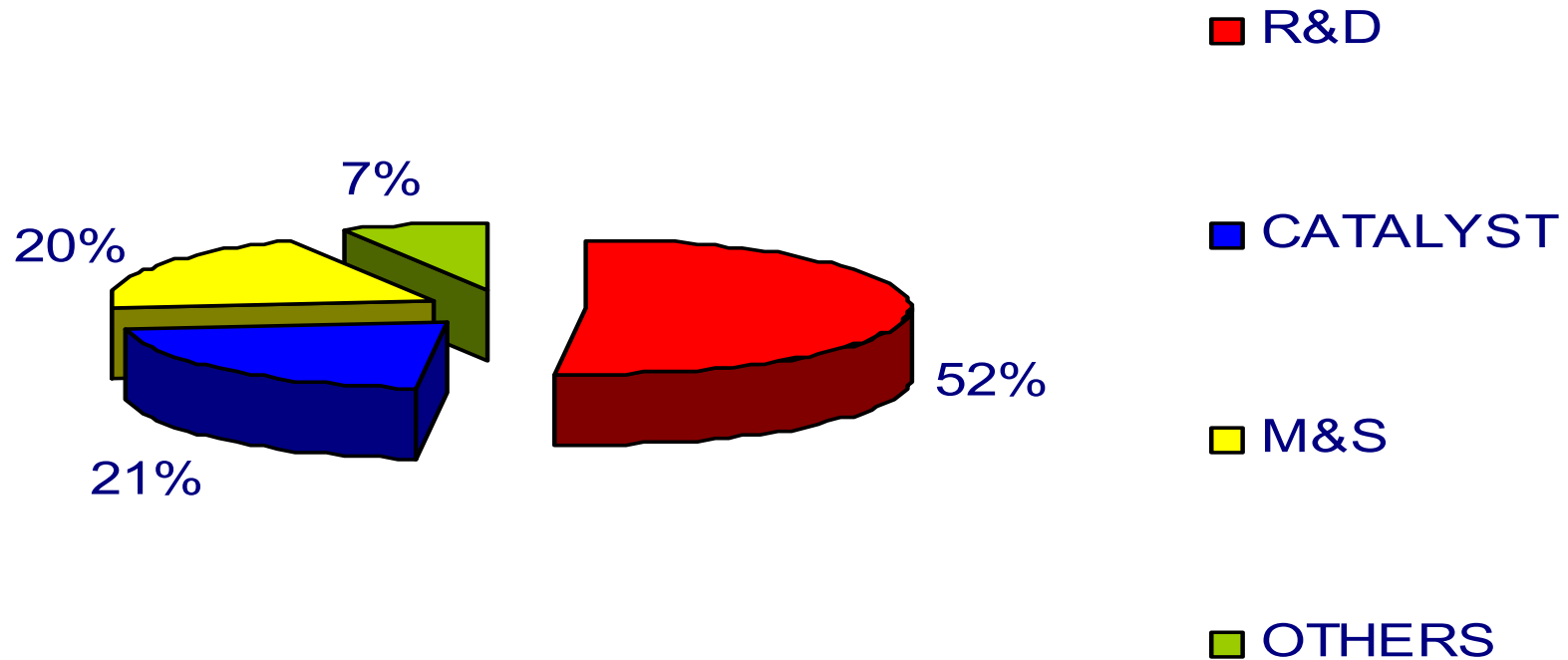
- 1953** Ziegler Natta catalyst discovery
- 1957** 1st PP Slurry Process
- 1960** HDPE- Slurry Process
- 1962** C2/C3 Rubber Bulk
- 1969** High Yield Catalyst for PE
- 1972** HDPE Slurry Process
- 1975** High Yield Catalyst for PP
- 1978** Advanced PP Slurry Process
- 1982** *Spheripol* PP Process
- 1984** Porous Catalyst
- 1990** *Catalloy* Process
- 1994** *Spherilene* Swing LL/HDPE Process
- 2002** *Spherizone* Process
- 2003** *Polybutene* Solution Process



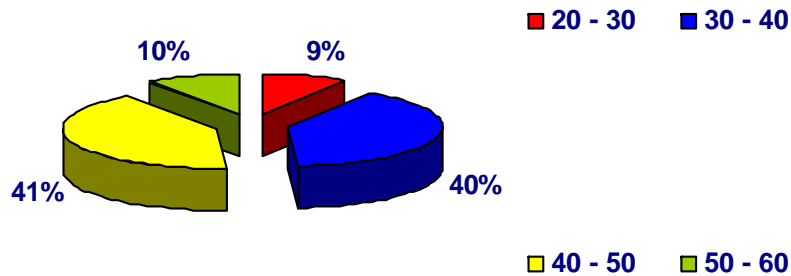
Foreground – First commercial reactor (1957)

Background – Modern *Spheripol* plant

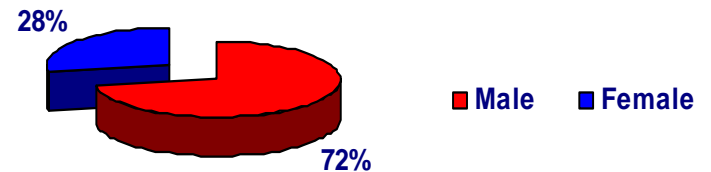
Ferrara Site about our 1000 people



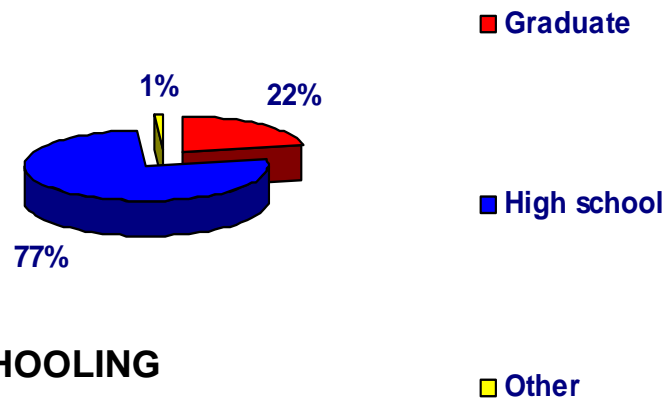
Ferrara Site about our people



AGE



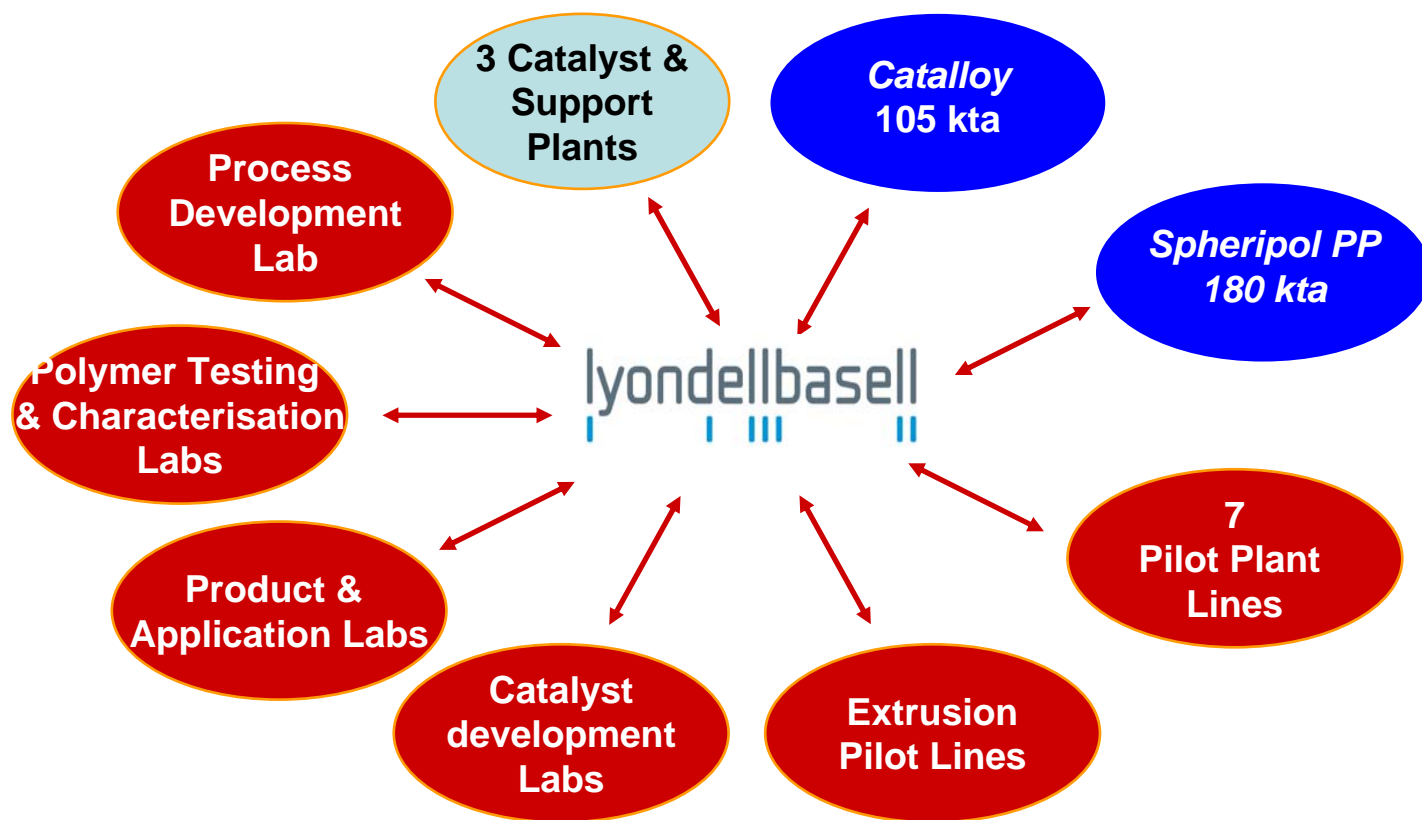
Female is increasing



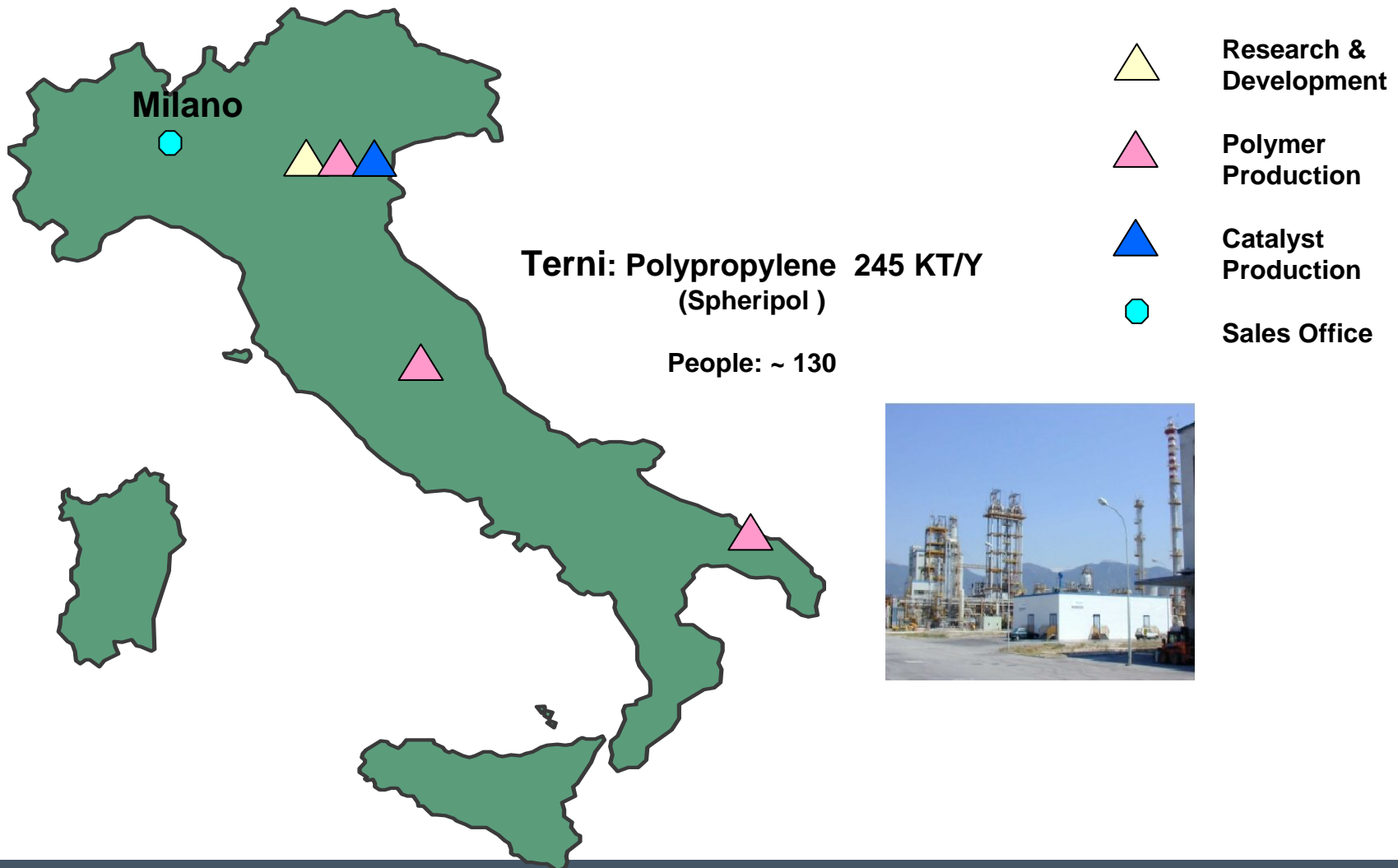
SCHOOLING

LyondellBasell in Ferrara

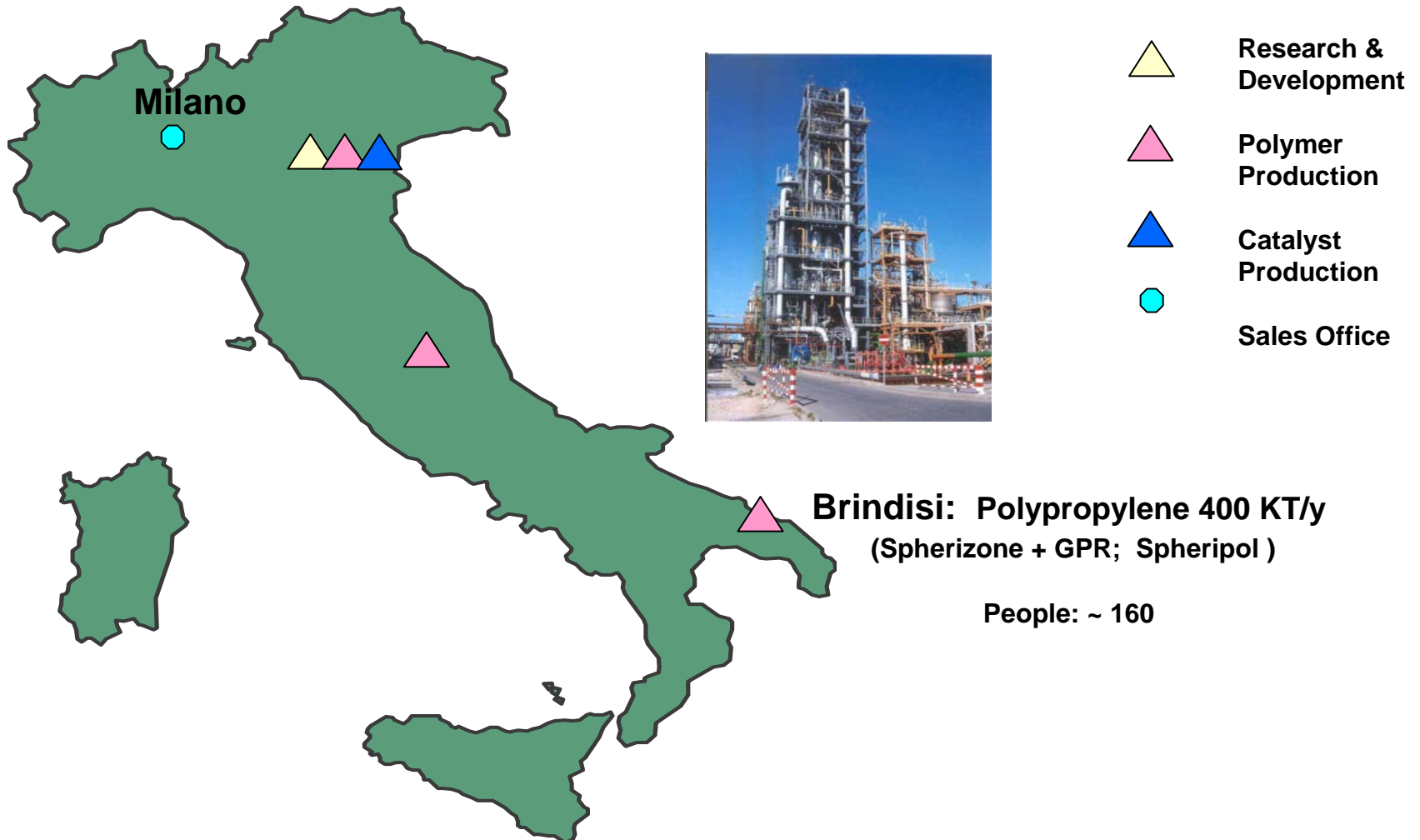
From ideas to commercialisation



LyondellBasell Sites in Italy



LyondellBasell Sites in Italy



LyondellBasell vs. external audience



National and Community Involvement

- Member of:
 - Federchimica (National Chemical Company Federation)
 - Plastics*Europe* Italy (President G. Rossi & A. De Vries VP *PE* Europe)
 - Confindustria (National Industry Association):
Brindisi, Ferrara, Milano, Terni
- Community relationships
 - Regular meetings with local authorities (Permits releases, local regulations, Accordo di Programma, EMAS certification, etc.)
 - Open day for the public (> 2000 visitors in 2004)
 - Masters with Ferrara and Rome Universities on Science, Environment, Technology & Management involving 15÷20 international students per year

Organisational values for Ferrara

- Organization flexibility: **CAT, 18 months contract**
 - **a tool covering peak workloads**
 - **800 participants in 10 years**
 - **an excellent selection method**
 - **12% eventually recruited in Basell indefinitely**
- Law's requirements: **"Legge 68"**, employment of disabled personnel
 - **presently 15 individuals are employed**
 - **agreement with social co-ops as contractors**
- Social initiative: **"Progetto Pegaso"**, a community project for reinsertion of inmates into the social life
 - **Jointly developed with City Jail and ENAIP with the support of City Council, Province and Unions**
 - **10 inmates (or former) for 12 months**

Confindustria Awards for Excellence

Basell Italy has come second in the 'Innovation' section of a prestigious awards scheme introduced in 2006 by the main national industrial and business association of Italy, Confindustria. Basell is one of 120,000 member-companies.

The silver award recognises the work of Basell's R&D employees in Ferrara in developing polyolefin and polypropylene products and catalysts, and patenting and licensing them worldwide. The team is supported by R&D colleagues in Frankfurt and Elkton.

The award scheme aims to identify the best company in three sectors: 'Local increase in value', 'Made in Italy' and 'Innovation'. More than 200 companies entered the Innovation category. Basell Italy had to submit papers and commendations to support global evaluation of the company over the previous three years, the evaluation criteria including return on investment, R&D spend, new products and patents, technical leadership, scientific and external collaborations.

A panel drawn from 400 member-companies, the scientific/academic community and technical members of Confindustria selected three finalists in each category. The finals were then held in Turin on 12 December, and the awards presented by Italian Government Minister, E. Bonino, and Confindustria's President, L. Di Montezemolo. The silver 'Company Excellence for Innovative' award was received by Basell Italy's President, Giuseppe Rossi, and Luca Scanavini, External Affairs manager.



Roma event, May 2006

Roma d+ design più INTERNATIONAL EXPODESIGN
www.romadesignpiu.it
25 MAGGIO 8 GIUGNO

creatività e innovazione in MOSTRA
 performances | mostre | musica | seminari | video | conferenze | workshop | eventi | convegni

EX MAGAZZINI GENERALI
 ROMA ESTERNA VIA DEL COMMERCIO 13

4 EXPODESIGN 2006

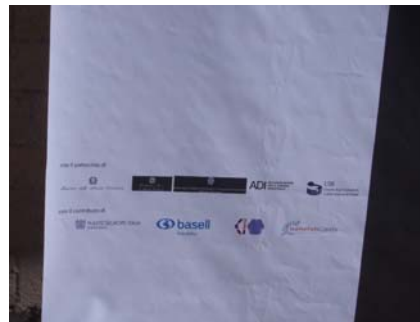
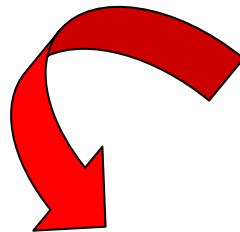
La invitiamo alla presentazione del volume

mo...moplen
 Il design delle plastiche negli anni del boom
 Plastics design in Italy's boom years
 a cura di Cecilia Cecchini

31 Maggio ore 18.00
 Presentano: Renzo Arbore, Alberto Bassi, Giampiero Mughini
 Una occasione per parlare del design degli anni '50-'60 con un artista, uno storico del design e uno scrittore, accomunati dalla passione per il collezionismo degli oggetti realizzati in plastica
 Introduce Tonino Paris
 Sarà presente l'autore
 Ex Magazzini Generali, Aula Magna, Via del Commercio 13, Roma

mostra
 25 maggio | 8 giugno
 14.00-24.00
 Inaugurazione 25 maggio ore 19.00

organizzazione
factoryLSD
 La Sapienza Design
 Ufficio Stampa
 Nicolas Martino
 (t) 06 4991 9016 (f) 06 4001 9015
 info@romadesignpiu.it





Italian plastic promotion campaign

- Articles on magazines : Airone (popular)
Chimica e Industria (technical)
- Events managed by Plastics*Europe* Italy:

Hey! Sono un polimero!



May – October 2006

The web site www.sonounpolimero.it (June - October)

- > 64.128 visitatori diversi
- > 1.846.904 contatti
- > 39,72 giga scaricati
- > 1.559.910 pagine visitate
- > 9.837 giocate al Poligame
- 3.297 registrati
- 4.342 risposte al sondaggio
- visite da oltre 60 Paesi in tutto il mondo (Italia > 98%)



Events: Polymer's night



Milano

Happy Hours

✓ Matricola Irish Pub 21/06/06

Bar Bianco (12 luglio)

Disco

Cheval (14 luglio)

Notte bianca

✓ Exploit – La notte bianca dei polimeri
(24 giugno)

Roma

Disco

✓ Open Bar Disco - Ostia (24 giugno)
Open Bar o Area Olimpico (5/7 luglio)

Ferrara, 29.09.06

Dall'Happy Hour a tarda notte:

- oltre 600 ragazzi coinvolti
- 500 T-shirt, 450 borse, 100 bicchieri e 400 collanine
- + 74% visite al sito dall'esposizione della locandina e degli inviti (27.09.06) ad oggi, rispetto alla settimana precedente
- + 375% iscritti nello stesso periodo



Ferrara, 29.09.06

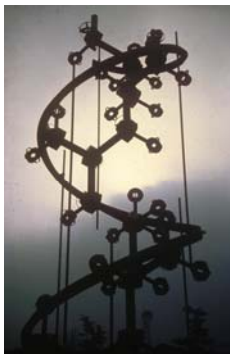


Ferrara, May 2007

Seminar "PP uno sguardo al Passato per andare verso il Futuro"



"G. Natta Award" (Premio Natta)



To celebrate the birth centenary of Nobel prof. G. Natta (2003), this prize is awarded to a senior researcher, whose scientific activity contributed substantially in improving the quality of our life.

2007



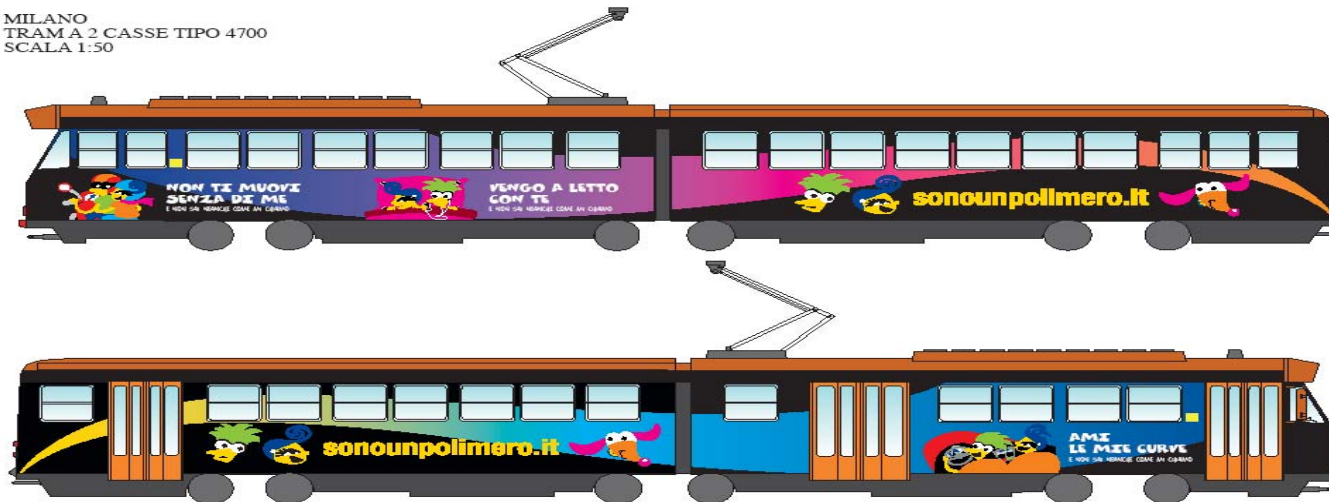
2006



Milano 2° half 2007: *Hey, sono un polimero !*

In “autumn 2007” the promotion campaign managed by *PlasticsEurope Italia* has been implemented in Milano, using trams covered by advertising posters. The trams travel up and down a big part of the downtown.

MILANO
TRAM A 2 CASSE TIPO 4700
SCALA 1:50



Milano,
13 November 2007



FEDERCHIMICA

PLASTICSEUROPE ITALIA

Associazione Italiana dei produttori di materie plastiche



POLITECNICO
DI MILANO

2030
La società prossima ventura
Il ruolo della plastica

Milano, 13 novembre 2007

Politecnico di Milano - Edificio N • Via Durando, 10 • Milano Bovisa

Ore 10.00 Apertura dei lavori
Coordina Antonio Cianciullo, *La Repubblica*

Giulio Ballio, *Rettore Politecnico di Milano*

Giorgio Squinzi, *Presidente Federchimica*

Giuseppe Rossi, *Presidente PlasticsEurope Italia*

Ray Hammond, *Futurologo*

Sezione interattiva dialogo con gli oratori

Ore 12.00 Collaborazione Politecnico e Industria nella didattica:

Il corso di laurea LIM-pol

Laurea in Ingegneria Materiali polimerici

Andrea Pavan, *Vice Direttore Dip. Chimica, Materiali e
Ingegneria Chimica, Politecnico di Milano*

Ore 12.15 Conferimento delle Borse di Studio

Cocktail

Segreteria organizzativa: p.orlandini@federchimica.it - Tel. 02 34565.309 • n.sutera@federchimica.it - Tel. 02 34565.355

Genova, 25 October - 6 November 2007 : Festival of the Science

From Italian newspapers:

- ***Nell'ambito del Festival della Scienza di Genova si svolge la mostra "La danza degli elementi". Il prof. G. Cevasco del Dipartimento di Chimica di UNIGE organizza una parte della sala al "Moplen". Basell abbiamo prestato la miniatura della molecola del polipropilene isotattico esposta a Ferrara e circa 500 brochure.***
- ***Nell'ambito del Festival, il 29 ottobre si è svolta la cerimonia conclusiva del Premio Nazionale Federchimica Giovani 2007 sezione plastica, a cui Basell Poliolefine Italia srl aderisce, rivolto alle scuole primarie e secondarie di primo grado.***



Global Care Day Italy: April 2008



Brindisi



Ferrara



Milano

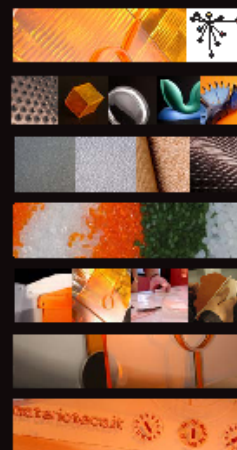


Terni

Ferrara, May 2008: PlasticsEurope General Assembly



Milano, September 2008: Materioteca®



Materioteca®

è lieta di invitarla alla **CONFERENZA STAMPA**
in occasione dell'inaugurazione della sua **NUOVA SEDE**

Plastica&Design Milano:
"Il futuro dietro l'angolo"

h 12:40 workshop/conferenza stampa
h 13:20 presentazione Materioteca®
h 13:40 rinfresco

RSVP

Via Savona, 97 | 20144 | Milano
info@materioteca.com | www.materioteca.com

Milano
giovedì 18
settembre 2008

Powered by
Bayer MaterialScience
lyondellbasell

Ferrara, September 2008: Remtech Expo



Rome, October 2008 : Forum ESPERA

Ambiente

Comitato Onorario

Gianfranco Mascazzini, Ministero Ambiente
Angelo Angelucci, Sindaco di Valmontone

Comitato Scientifico

Raffaele Avella, AIDIC, Roma
Mario Beccari, Università di Roma "La Sapienza"
Boguslaw Buszewski, Copernicus University, Torun, PL
Luigi Campanella, Presidente SCI
Nicola Cardellicchio, CNR-IAMC, Taranto
Francesco Donci, Università di Ferrara
Corrado Fanelli, CTA, Università di Roma "La Sapienza"
Claudio Falcone, CTA, Università di Roma "La Sapienza"
Hartmut Frank, University of Bayreuth, G
Fabio Fava, Università di Bologna
Mauro Majone, Università di Roma "La Sapienza"
Antonio Marcomini, Università di Venezia
Salvatore Mazzullo, Federchimica
Fernando Maurizi, CNC - Roma
Loredana Musmeci, ISS - Roma
Alberto Prestinanzi, CERI Università di Roma "La Sapienza"
Luigi Toro, Università di Roma "La Sapienza"
Ferruccio Trifiro, Università di Bologna

Comitato Organizzatore

Salvatore Mazzullo, LyondellBasell, Ferrara
Fernando Maurizi, CNC - Roma
Monica Gherardi, ISPESL - Roma



FORUM 2008

<http://2008.ambiente.asi.it/>

Etica & Scienza per l'Ambiente



**Valmontone (Roma)
2 Ottobre 2008**

CERI Palazzo Doria Pamphilj

Chairman:
LUIGI CAMPANELLA, Presidente della Società Chimica Italiana


Co-Chairman:
BALVATORE MAZZULLO, Ferrara, MAURO MAJONE, Roma

Segreteria Organizzativa:
Sig. **Manuela Mostacci**
SCI, Viale Liegi 48/C
00198 Roma
Tel. 06 8549691
Email: manuela.mostacci.sci@sgs.it




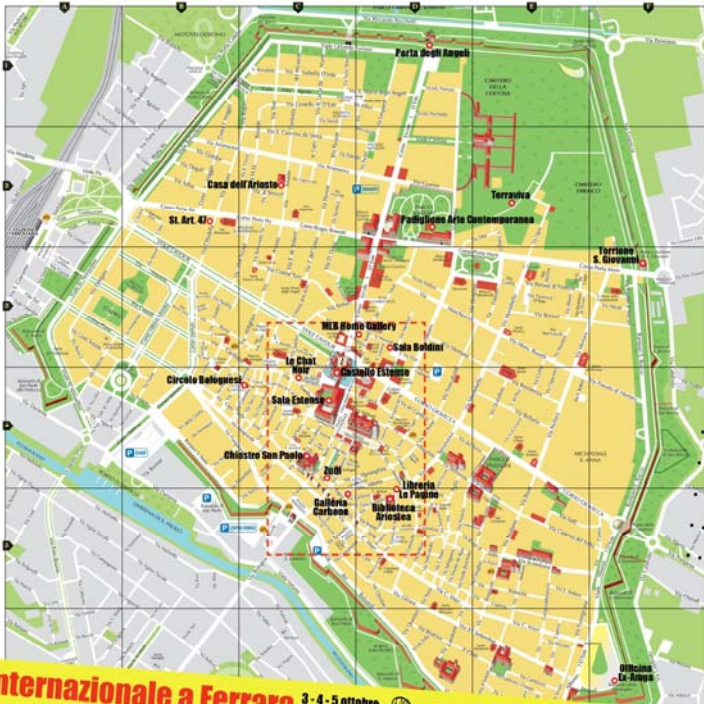

Ferrara, October 2008: International Cultural Event


lyondellbasell


 YARA


Ferrara Holding Servizi

 *il Fagiano*
Settepolesini di Bondeno



 Comune di Ferrara
Assessorato alle Politiche e Istituzioni Culturali
Circoscrizione Centro

 2008
anno della bicicletta

 ARCI

mostre.....
performance..
teatro.....
cinema.....
letteratura...
laboratori...
escursioni...
in
città.....

Internazionale a Ferrara 3-4-5 ottobre 2008 Un weekend con i giornalisti di tutto il mondo

3, 4 e 5 ottobre 2008
Pedagate artistiche - A cura di Itinerando
Tre percorsi fra le suggestioni storiche, artistiche e culturali di Ferrara.
Luogo di ritrovo: Noleggio biciclette di via Kennedy, 2
Orari: 20.45 per venerdì 3 / 17.00 per sabato 4 / 10.00 per domenica 5
Quota di partecipazione: Euro 8,00. Gratuito fino a 12 anni.
Utilizzando la propria bicicletta oppure noleggiandola al momento.
Info e prenotazioni: tel. 0532 202003
Tre tour in bicicletta alla scoperta dei luoghi dell'universo femminile della corte estense di Ferrara (venerdì), degli scenari cinematografici della città (sabato) e degli spazi della Ferrara di Giorgio Bassani (domenica). È necessaria la prenotazione.

3 ottobre 2008
Notti magiche passeggiando per Ferrara
Dalla Basilica di S. Maria in Vado alla Chiesa della Madonna
Luogo di ritrovo: Chiesa di S. Maria in Vado - via Borgovado, 3
Ore 21.00
Partecipazione gratuita
Info: tel. 0532 419555
Una passeggiata fra i luoghi più significativi della Ferrara medievale.

Internazionale a Ferrara 3-4-5 ottobre 2008

Escursioni in città

Thank you very much !

