

Pan-European Geocoding and Address Matching

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GROUP 1 SOFTWARE
& MapInfo.

|
are now
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 **Pitney Bowes**
Business Insight

European Geodemographics Conference
01 April 2009, London

Agenda

- Who is PBBi and what does PBBi offer ?
- Geocoding – the “where”
- Address Dictionary – the reference data
- The challenges in a Pan-European (international) approach
- Case Study International Geocoding – Mastercard

Pitney Bowes Inc.

- You know us for mail. We created an entire industry. Today, we're the leader in **mailing solutions** (Mail Services, Production Mail, Office Mailroom) – **and more**
- Headquartered in Stamford, CT
- Over 35,000 employees worldwide
- Offices in over 100 countries
- International leadership since 1920
- Worldwide distribution
- 14-year track record as one of the top 200 corporations receiving U.S. patents
- Fortune 350 company
- Annual revenue of \$5 billion
- 17 years of double-digit dividend growth

Pitney Bowes Business Insight

November 2008 : Group 1 Software and MapInfo merged

January 2009 : Merger announced as Pitney Bowes Business Insight

- **About Group 1**

- Founded in 1981
- **Acquired by Pitney Bowes July 2004**
- Headquarters in Lanham, MD
- Nearly 700 global employees, more than 3,000 customers worldwide
- Primarily led by Group 1 Software, Pitney Bowes achieved \$202 million in software revenue in 2006, \$219 in 2007
- Recognised as the 128th largest software company in the world

- **About MapInfo**

- Founded in 1986
- **Acquired by Pitney Bowes November 2007**
- Leading global provider of location intelligence solutions
- Headquartered in Troy, NY
- 900 employees worldwide, 24 offices worldwide
- More than 7,000 global organizations in an array of industries
- MapInfo achieved \$185 million in revenue in 2007

Pitney Bowes Business Insight

encom[★] advanced realities

SouthbankSystemsLtd

GeoBusiness
Solutions

ACXIOM[®]

SBS

 **Pitney Bowes**

SAGENT

 **Confirm**

GDC
Geographically Intelligent Solutions

 **MapInfo**[®]

Where Opportunity Is Located[™]

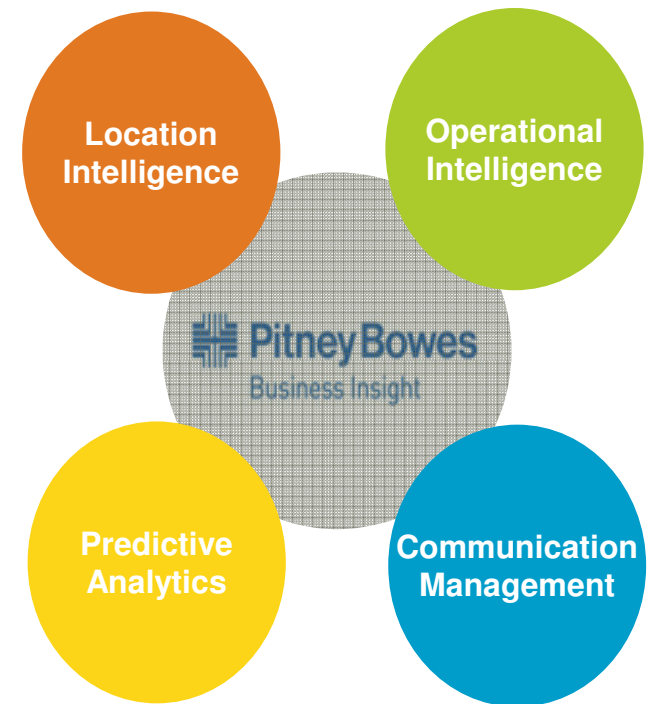
GROUP1[®]
SOFTWARE
A Pitney Bowes Company

GROUP 1 SOFTWARE
&  **MapInfo**
are now
 **Pitney Bowes**
Business Insight

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Pitney Bowes Business Insight – Offering I

- Focus on delivering **integrated solutions** and addressing market opportunities within key vertical markets
- Our **location intelligence solutions** enable customers to extract strategic insight and make more profitable decisions by leveraging location-based data
- Our **predictive analytic solutions** enable customers to harness their data assets by employing complex statistical models to analyze and predict customer and market behavior.



Pitney Bowes Business Insight – Offering II

- Global Geocoding Software for Location Intelligence solutions
MapMarker (Desktop & Server) integrated in **AnySite** for Predictive Analytics, Envinsa/CDQP and MapInfo Professional
- Global Data for Location Intelligence solutions
Demographic - geographic data related to consumer or population information, working in partnership with EuroDirect, the global provider of demographic and customer segmentation products
Mapping - a comprehensive range of small scale and large scale mapping
Postal - at different levels of precision
Boundary - ranging from administrative, postal to census and political sets
Business - rich set of information around business and points of interest
Vertical - around aerial, satellite and height data
- Services for Location Intelligence solutions

Geocoding – What is it ?

- Geocoding is the process of assigning "the where" to address information. By adding a geographic coordinate to data that contain address information like postcode, city, street name and house number, the data is converted into a geographical object.
- Geocoding is one of the key steps in enabling Location Intelligence (LI).
- Address Data : customer, stores, competition, assets, ...

Address Data - Collecting

Many Users



Data Entry



Professional



Call Center



Consumer

Many Systems



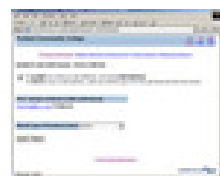
Mainframe



Servers



Client/Server



Web

Many Databases



VSAM



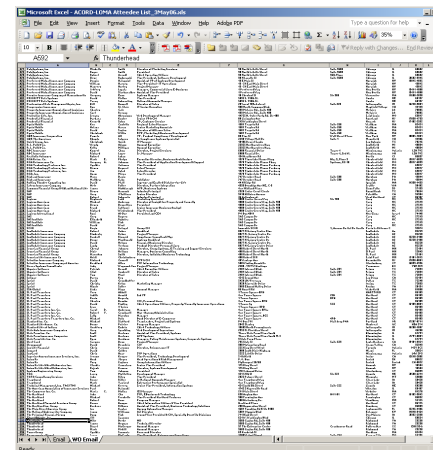
IMS



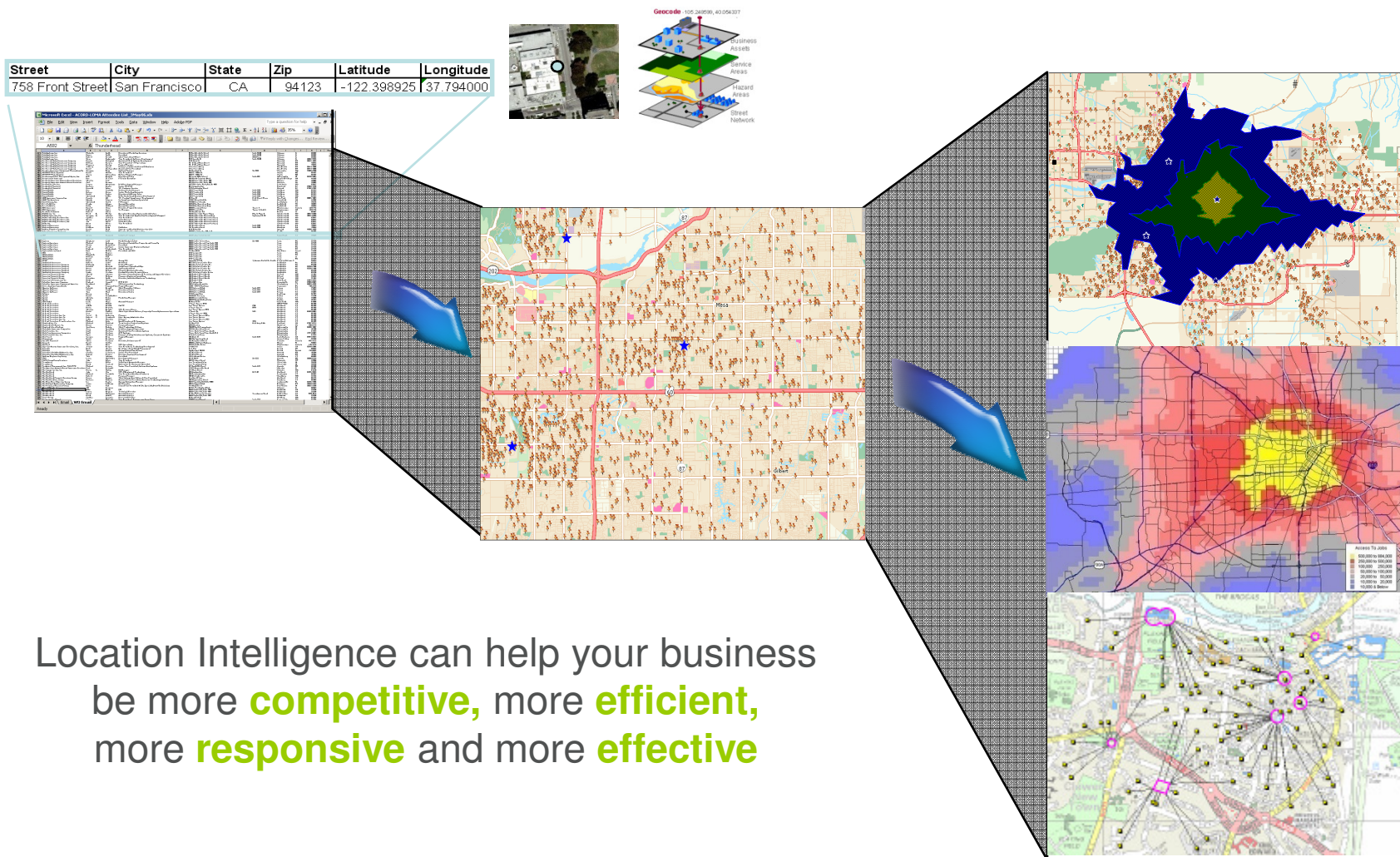
DB2



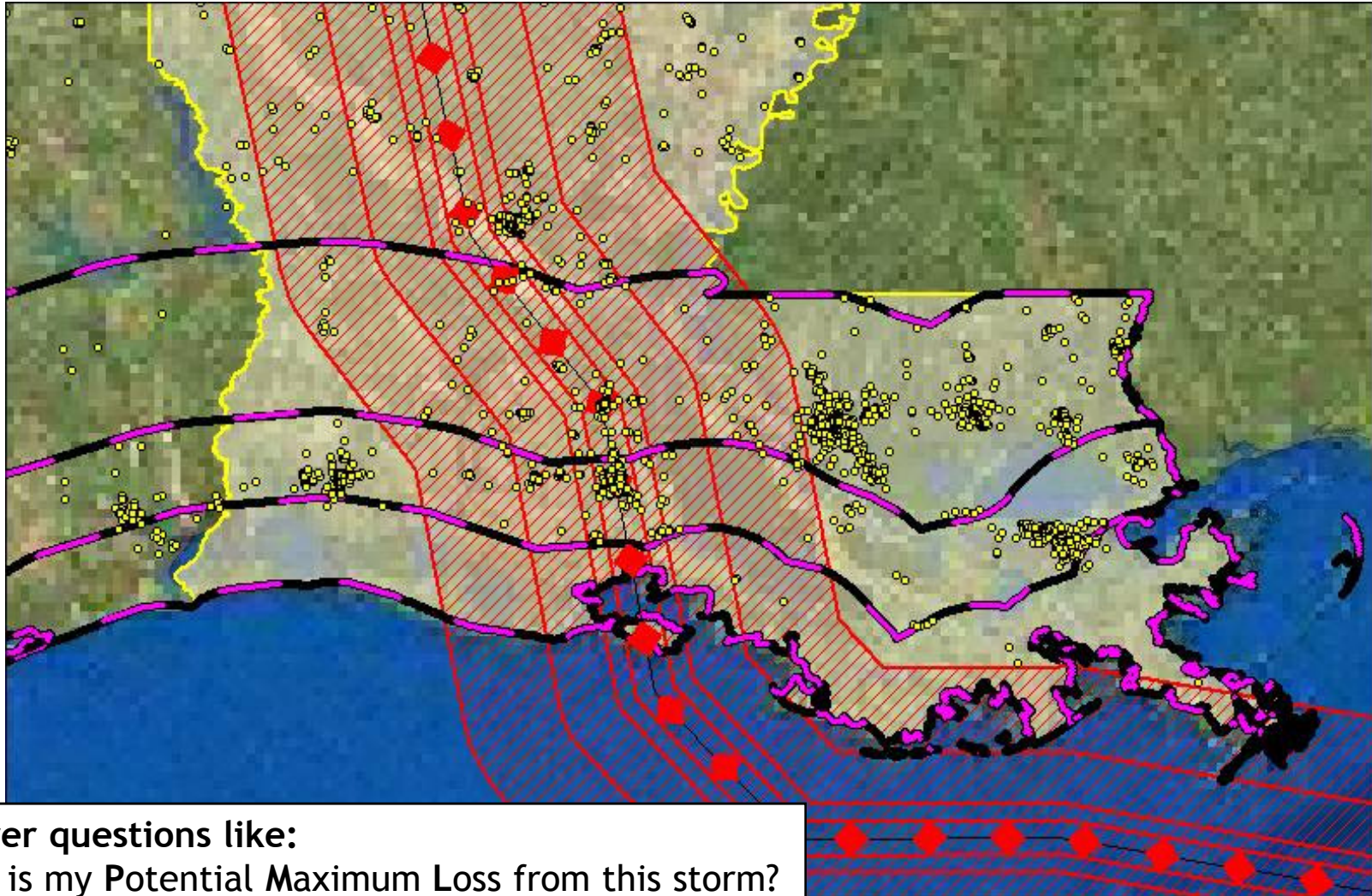
ORACLE



Address Data - Visualising and Analysing



More Responsive: Storm path prediction



Answer questions like:
What is my **Potential Maximum Loss** from this storm?

More Effective: Know Your Customers

The screenshot shows the MapInfo TargetPro interface. At the top is a menu bar (File, Edit, Tools, Objects, Query, Table, Options, Map, ImageConnect, TargetPro, Window, Envinva, Help) and a toolbar. Below the toolbar is a legend titled 'Cluster Name' with two columns of color-coded categories. The legend includes: Equestrian Heights, Suburban Establishment, Suburban Wave, Rural Renaissance, Towns in Transition, Kids, Dogs, Vans, Cruisin' Couples, Moo's and Modems, Echo Boomtown, Live to Work, Changing Places, New Neighbors, Singles Place, College Towns, Workin' on the Dream, and Unclassified. To the left of the legend is a map window showing a street grid with a red line indicating a specific cluster. Below the legend is another map window showing a different view of the same area. In the bottom left corner, there is a 'TestWkspc' panel with a list of map layers, including PrimaryHighways, SecondaryHigh, MajorRoads, NYStreets, NYWater, Block_Groups, RefinanceCons, ZIP_Codes_Thr, ThreePlusCellP, MSA, DMA, and Block_Groups. The main area of the interface is dominated by a large photograph of a two-story brick house with a white portico. A man in a light blue shirt and khaki pants is kneeling on the lawn, interacting with a dog. A woman in a black dress and a child are sitting on a bench in front of the house. Two red arrows point from the right side of the interface towards the house photo, indicating a connection between the map and the image. Below the photo is a text box with the following text: 'Today's young professionals usually gravitate to urban settings but an earlier generation created America's suburbs. They are the doctors, lawyers and accountants now with incomes significantly higher than their neighbors, living and working in established suburbs. Fully 65 percent work outside central cities. They index high on householders aged 50+ with few children at home and many empty nests. They have an older skew because some are retired and living in'.

Singles Place has the highest index of persons aged 21 (a significant age) to 29 years. While 67 percent are renters and 25 home owners, the rest are either sharing or cramming. Found in all major metro areas, the college-educated unattached are 85 percent USA born and 15 percent immigrant; 30 percent are either African American or Hispanic; 70 percent are white, non-Hispanic. The divorced are overrepresented as are multi-person non-family households

Geocoding - Pan-European Challenge

- Different address formats across countries
 - addresses with or without postcodes
 - numeric or alphanumeric postcodes
 - house number before or after street name
 - whether a comma is used between the street number and name
 - name before or after company name
 - whether blank line is inserted
 - position of postcode

(www.upu.int/post_code/en/guide_headings_used_chapter_en.pdf,

UPU = Universal Postal Union, a United Nations agency)

- Different address standardisation
- Different languages & character sets even in one country

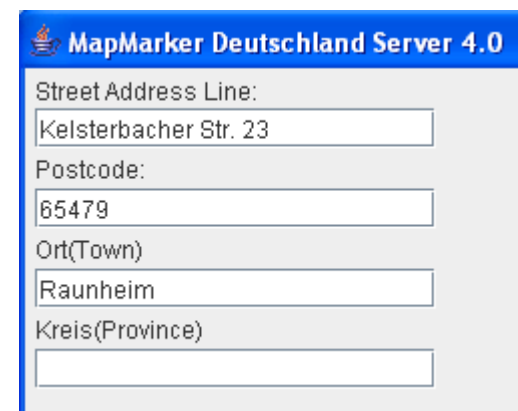
Geocoding - Pan-European Solution

- Public API exposes country specific Address Fields
 - one API for each country considering country specific situation

=> Multi-Country Geocoding

- Public API does **not** expose country specific address fields
 - one consistent API across all countries using harmonized address fields or
 - single line input without any address fields, which enhances probability to geocode input addresses of low quality

=> Pan-European (International) Geocoding



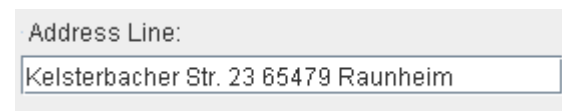
MapMarker Deutschland Server 4.0

Street Address Line:

Postcode:

Ort(Town)

Kreis(Province)



Address Line:

Geocoding - Pan-European Outlook

EURADIN - European Addresses Infrastructure (<http://www.eurogi.org>)

... is an EU funded project that was launched in Pamplona (ES) in June 2008 and that will run until May 2010.

The aim of the project is to significantly contribute to **harmonize the European Addresses**, proposing a solution to achieve their interoperability, and thus facilitating the effective access, reuse and exploitation of that content. ...

The specific objectives of EURADIN are:

- To establish a wide European Best Practice Network of address stakeholders.
- ...
- To select, synthesize and document the best practices related to address definition, registration and maintenance. To deliver a proposal for the harmonization of European Address (Data, Metadata, Data Flow and Business Model), based on the available **INSPIRE specifications and implementing rules**.
- To validate the proposed harmonization model and Address Infrastructures through the development of a Pilot European Gazetteer Service giving access to the addresses of several European countries and/or regions.

Case Study Intl. Geocoding - Mastercard

CASE STUDY

MasterCard® revamped its online and phone-based ATM locator services with MapInfo® Envinsa™, the most comprehensive location intelligence platform. Today, consumers can instantly find the nearest cash machine, MasterCard's partners are profiting from increased ATM transactions and the service has become a lucrative competitive asset.



“The MapInfo® Envinsa™ location intelligence platform is allowing us to transform merchant and consumer data into new revenue-generating services never before possible. We are projecting an astonishing five-year ROI of 1,152%.”

Tatiana Mulry, Vice President of Information Products and Services,
Global Development Group, MasterCard® International

http://www.mapinfo.com/americas/us/case_studies/financial/collateral/MasterCard_CaseStudy.pdf

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Case Study Intl. Geocoding - Mastercard

- MasterCard and Maestro® credit and debit cards are accepted in **22 million locations around the world**
- MasterCard owns the Cirrus® ATM network— one of the world's largest, with **900,000 ATMs in 120 countries**.
- Banks and ATM owners link their cash machines to the Cirrus network.
- **MasterCard Challenge: How to Easily Connect Customers to Cash Worldwide ? ==> International Geocoding**
- In the mid-1990's launched a toll-free phone number 800-4CIRRUS
- In 1997, the Mastercard.com deployed an online ATM locator on its web site, Mastercard.com from a different vendor
- the costs of maintaining the two systems resulting in a net annual **loss of \$400,000**
- voice and online ATM locators delivered **different outcomes**
- The web site vendor **geocoded** geographic locations only twice a week
- MasterCard was also not happy about the vendors service

Case Study Intl. Geocoding - Mastercard

- MasterCard sought an in-house **Location Intelligence solution** that could do **international geocoding** and update the phone system and web site simultaneously.
- “We wanted a like-minded partner to help us deliver ATM locator services superior to our competition,” Tatiana Mulry, Vice President of Information Products and Services, Global Development Group, MasterCard International.
- MasterCard deployed the MapInfo **Envinsa Location Intelligence platform** to support its **ATM locator web site** in **October 2003**, then integrated it with its **phone-based ATM locator** in **February 2004**.
- As a result, a service that once cost the company \$400,000, MasterCard generate **approx. \$5 million in revenues** in 2004, with further profits as MasterCard extended the ATM locator outside North America.
- **2009**: Still very good relationship, MasterCard is using and upgrading all geocoders PBBI offers with Envinsa.

Questions & Answers

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www.mrs.org.uk/networking/cgg/