BUSINESS CHALLENGES AND OPPORTUNITIES for satellite imagery providers
**EOS products**

**EOS Platform**
Cloud tool for search, sharing and on-the-fly processing of satellite imagery with high and low resolution.

**EOS Vision**
Perform efficient geodata analysis and visualization with flexible SQL interface and state-of-the-art cartographic tools in EOS Vision.

**EOS Intelligence**
Solve intelligence and security challenges in maritime and military domain utilizing comprehensive satellite surveillance solution based on EOS own proprietary methods to fuse data extracted from SAR satellite imagery with 3rd party data sources such as AIS.

**EOS Crop Monitoring**
Smart Solutions to make farming simple analyze, model and predict the crop yields in one place.

**EOS Lidar**
Employ precise automated LiDAR data processing, 3D modeling, visualization solutions for security, business, government applications.
Company profile

Ownership

Privately held company

Human Resources

- 150+ employees
- R&D group of scientists led by 5 Professors & 15 Ph.D
- Own software development team

Main Business

Providing diverse solutions and software for business, science and education using earth observing data.

Location

- HQ in Menlo Park, California
- Research center in Eastern Europe
- Sales teams in North America & Eastern Europe
Market share

<table>
<thead>
<tr>
<th>Sector</th>
<th>Services</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defense</td>
<td>49%</td>
<td>28%</td>
</tr>
<tr>
<td>LBS</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>Energy</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Maritime</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>Dis. management</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>Environment</td>
<td>14%</td>
<td>14%</td>
</tr>
<tr>
<td>Finance</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

$3.78B  $2.4B
General flow

Satellite imagery → Pixels + VAP + DP → CLIENTS

Logos of various companies and organizations are shown in a box.
Problem statement #1
Lack of imagery coverage in areas of need
Problems: lack of fresh coverage and coverage in areas of need
Solutions: we need images

2018–2019

0.5 m/pxl – 3 000 images
1.0 m/pxl – 6 000 images
2.5 m/pxl – 5 000 images
Problem statement #2
Compatibility and quality of the imagery
# Problems: Quality of the Imagery

<table>
<thead>
<tr>
<th>Satellite</th>
<th>400 nm</th>
<th>500 nm</th>
<th>600 nm</th>
<th>700 nm</th>
<th>800 nm</th>
<th>900 nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satellite 1</td>
<td>430</td>
<td>550</td>
<td>590</td>
<td>710</td>
<td>740</td>
<td>830</td>
</tr>
<tr>
<td></td>
<td>470</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>830</td>
</tr>
<tr>
<td></td>
<td></td>
<td>740</td>
<td></td>
<td></td>
<td></td>
<td>940</td>
</tr>
<tr>
<td>Satellite 2</td>
<td>450</td>
<td>520</td>
<td>600</td>
<td>630</td>
<td>700</td>
<td>890</td>
</tr>
<tr>
<td>Satellite 3</td>
<td>450</td>
<td>590</td>
<td>520</td>
<td>630</td>
<td>690</td>
<td>770</td>
</tr>
</tbody>
</table>

- **PAN**
- **Blue**
- **Green**
- **Red**
- **NIR**
Problems: quality of the imagery

**NDVI - Satellite 1 - 08.05.2018 - 11:17**

**NDVI - Satellite 2 - 08.05.2018 - 12:41**
Problems: quality of the imagery


Problem statement #3

Minimum order and price
### Problems: Minimum order and price

<table>
<thead>
<tr>
<th>Optical Imagery</th>
<th>Archive Data</th>
<th>New Tasking Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average price:</strong> $10–15 / sq.km</td>
<td>Average price: $20 / sq.km</td>
<td><strong>Total budget:</strong> $2.5–3.75 for 250 sq.km (10 times 25 km)</td>
</tr>
<tr>
<td><strong>Minimum order:</strong> 25 sq.km</td>
<td><strong>Minimum order:</strong> 100 sq.km</td>
<td><strong>Total budget:</strong> $2.5K / scene</td>
</tr>
<tr>
<td><strong>Total budget:</strong> $2.5–3.75 for 250 sq.km (10 times 25 km)</td>
<td><strong>Total budget:</strong> $20K for 50 sq.km</td>
<td><strong>Total budget:</strong> $25K for 50 sq.km</td>
</tr>
</tbody>
</table>

**SAR Imagery**

<table>
<thead>
<tr>
<th>Average price: $2.5K / scene</th>
<th>Average price: $5K / scene</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimum order:</strong> 1 scene</td>
<td><strong>Minimum order:</strong> 1 scene</td>
</tr>
<tr>
<td><strong>Total budget:</strong> $25K for 50 sq.km</td>
<td><strong>Total budget:</strong> $50K for 50 sq.km</td>
</tr>
</tbody>
</table>
# Solutions: Price

<table>
<thead>
<tr>
<th>Use case: make change detection</th>
<th>Territory: 5 sq.km</th>
<th>Time period: 10 month</th>
<th>Resolution: 50 cm/pxl.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Optical Imagery</strong></td>
<td><strong>Archive Data</strong></td>
<td><strong>New Tasking Data</strong></td>
<td></td>
</tr>
<tr>
<td>Average price: $10–15 / sq.km</td>
<td>Total budget: $2.5–3.75K</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or —</td>
<td>Total budget: $500–750 for 50 sq.km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>** SAR Imagery**</td>
<td>Average price: $2.5K / scene</td>
<td>Total budget: $2.5–3.75K</td>
<td></td>
</tr>
<tr>
<td>Min order: 1 scene or $56 / sq.km</td>
<td>Total budget: $500–750 for 50 sq.km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or —</td>
<td>Total budget: $500–750 for 50 sq.km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average price: $20 / sq.km</td>
<td>Total budget: $20K</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or —</td>
<td>Total budget: $1K for 50 sq.km</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average price: $5K / scene</td>
<td>Total budget: $5K / scene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min order: 1 scene $112 / sq.km</td>
<td>Total budget: $50K</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or —</td>
<td>Total budget: $5.6K for 50 sq.km</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Use case:** make change detection  
**Territory:** 5 sq.km  
**Time period:** 10 month  
**Resolution:** 50 cm/pxl.
Problem statement #4

Legal issues associated with the development of VAP and DP
Problems

- A growing availability of satellite imagery must correspond to a greater ability to automatically and quickly extract and share information, in the most effective way.

- Major satellite imagery providers started development of their Imagery analytics platforms to transform raw pixels into the value-added information extracted from satellite images to respond to this need.

- Meanwhile, there is a market for satellite image processing services as well as GIS players who doesn’t provide any imagery/doesn’t have direct access to own satellite imagery.

- Such companies limited in terms of time and automated access to the imagery archive. This is the main obstacle to a greater ability to automatically create VAP and DP for final customers.

- Main limiter is the security, as there are number of bad guys around who are thirsty for satellite imagery as well as for VAP.

- Where are no common rules or standards to access imagery and those rules should standardize somehow to make GIS VAP and DP production transparent and boost the market in general.
Problem statement #5
Order and delivery
Problems: ordering and delivery

OWN PORTAL
for searching and ordering his own data

OWN ORDER FORM AND TIME PERIOD
for order delivery

OWN DESCRIPTION
for imagery processing level

OWN FTP
for delivery of the order
In order to universalize the industry processes and ensure the best quality of services, we need to create standards for product definition, description, order and delivery, all backed by API.
Opportunity
Opportunity

PROBLEMS

- Minimum order and price
- Lack of imagery coverage in areas of need
- Order and delivery
- Legal issues associated with the development of VAP and DP
- Quality of the imagery

SOLUTION

Marketplace
Thank you!

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