

# swedenBIO

The Swedish Biotechnology Industry Organization

*An analysis of the clinical development  
pipeline in the Swedish biotech industry  
Feb, 2006*

**Co-sponsors:**



SwedenBIO  
Wallingatan 24  
S-111 24 Stockholm  
Office +46 8 213601-02

## A Survey of the Swedish Biotech pipeline

- In December 2005 a survey of the Swedish biotech pipeline was conducted by SwedenBIO in cooperation with Arthur D Little and supported by Invest in Sweden Agency (ISA) and VINNOVA
- Results are impressive: 46 Swedish projects, excluding AstraZeneca, are in clinical trials (phase one, two or three) and 41 CDs are in late pre-clinical trials (less than 12 months from CT)
- SwedenBIO, ISA and VINNOVA will use the results to promote the Swedish biotech industry and to generate business contacts
- SwedenBIO, ISA, VINNOVA and Arthur D Little would like to thank all the participating companies

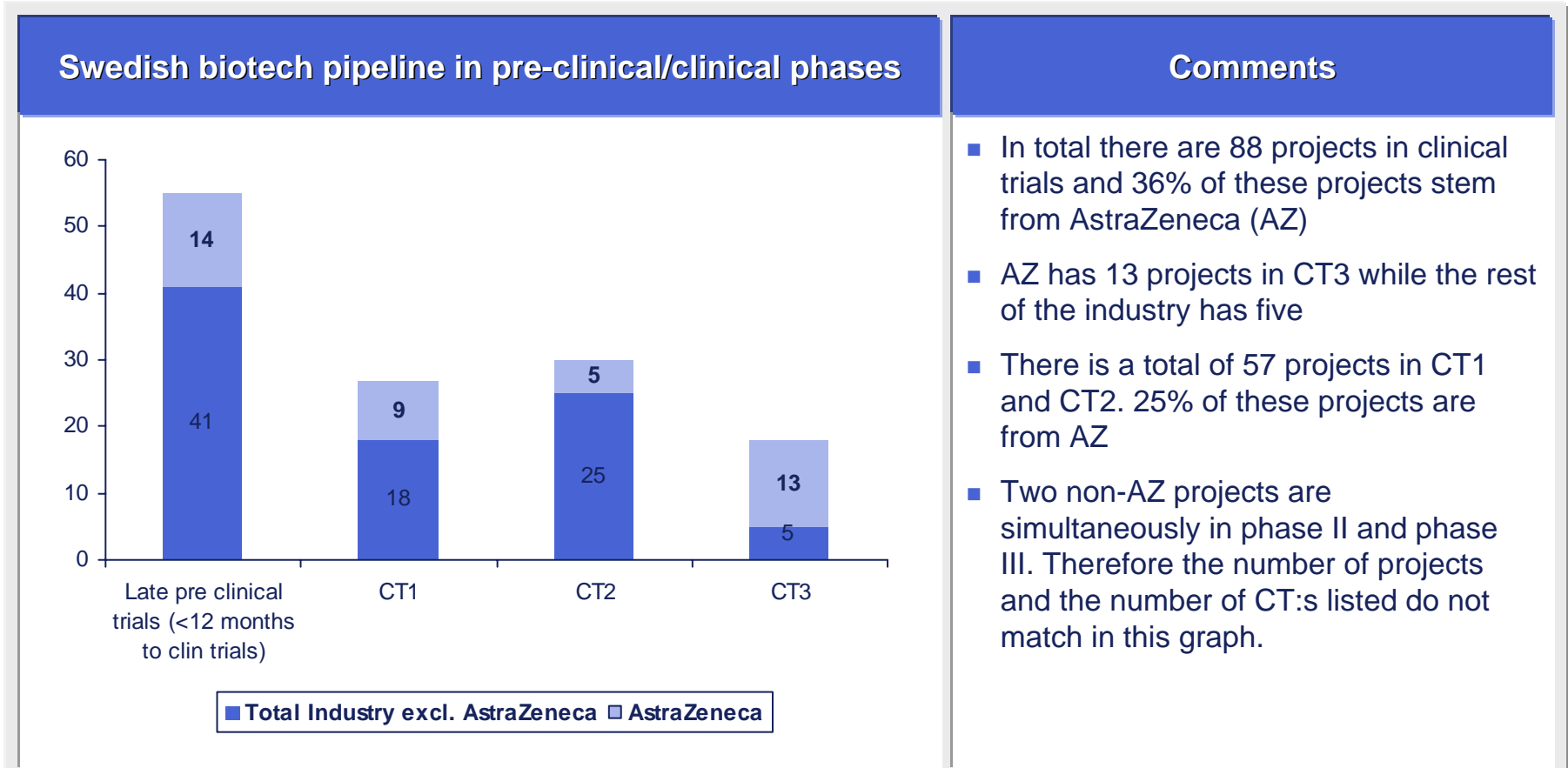
## 68 companies were contacted about the survey and 61 responded

Response to the survey	Comments										
<p>A pie chart illustrating the distribution of responses to the survey. The largest segment is 'Completed survey' at 58%, followed by 'No products in late preclin or CT' at 25%, 'No response' at 10%, and 'Survey not applicable' at 7%.</p> <table border="1"><thead><tr><th>Response Category</th><th>Percentage</th></tr></thead><tbody><tr><td>Completed survey</td><td>58%</td></tr><tr><td>No products in late preclin or CT</td><td>25%</td></tr><tr><td>No response</td><td>10%</td></tr><tr><td>Survey not applicable</td><td>7%</td></tr></tbody></table>	Response Category	Percentage	Completed survey	58%	No products in late preclin or CT	25%	No response	10%	Survey not applicable	7%	<ul style="list-style-type: none"><li>■ 69 companies were contacted about participating in the survey.</li><li>■ 58% of the companies answered the questionnaire</li><li>■ 25% stated that they had no projects in late preclinical development or clinical trials</li><li>■ 7% replied that the survey questions were not applicable to their projects.</li><li>■ 10% of the companies either did not reply or stated that they did not wish to participate because of confidentiality agreements etc.</li><li>■ In this presentation, only companies (39 ea.) with projects in pre-clin or CT have been included in the statistics</li></ul>
Response Category	Percentage										
Completed survey	58%										
No products in late preclin or CT	25%										
No response	10%										
Survey not applicable	7%										

Source: Interviews, VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06, AztraZeneca development pipeline (July 2005).pdf

Note: AztraZeneca is not included in this graph. In some cases, survey data has been completed with information from company homepages

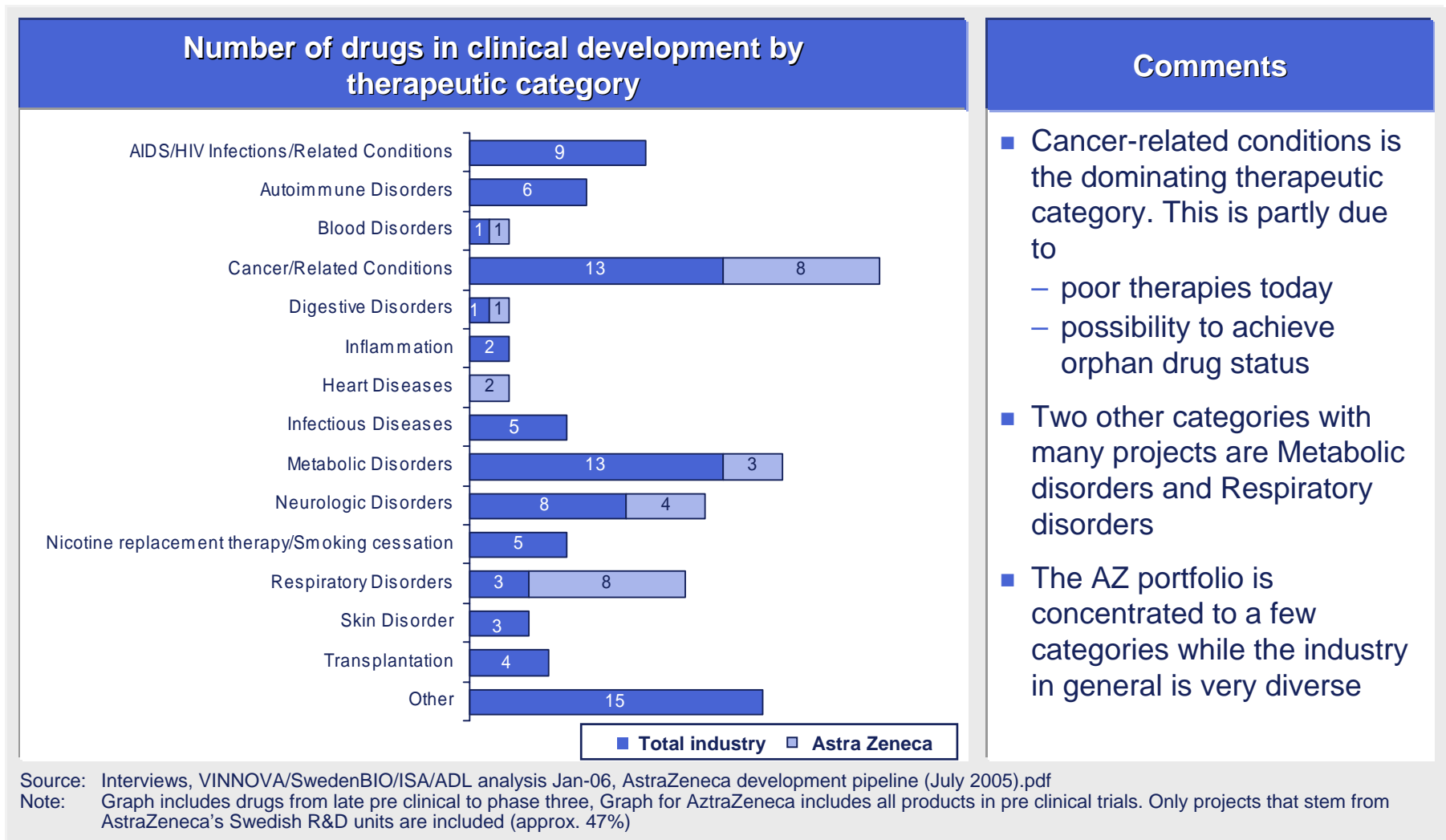
**The Swedish biotech pipeline has 128 projects in late pre-clinical or clinical trials. 41 of these projects stem from AstraZeneca**



Source: Interviews, VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06, AstraZeneca development pipeline (July 2005).pdf

Note: Only projects that stem from AstraZeneca's Swedish R&D units are included (approx. 47% of all products according to AZ). Numbers for AstraZeneca include all products in pre clinical trials not only the products in late pre clinical trials.

## The dominating therapeutic category is cancer-related conditions



Source: Interviews, VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06, AstraZeneca development pipeline (July 2005).pdf

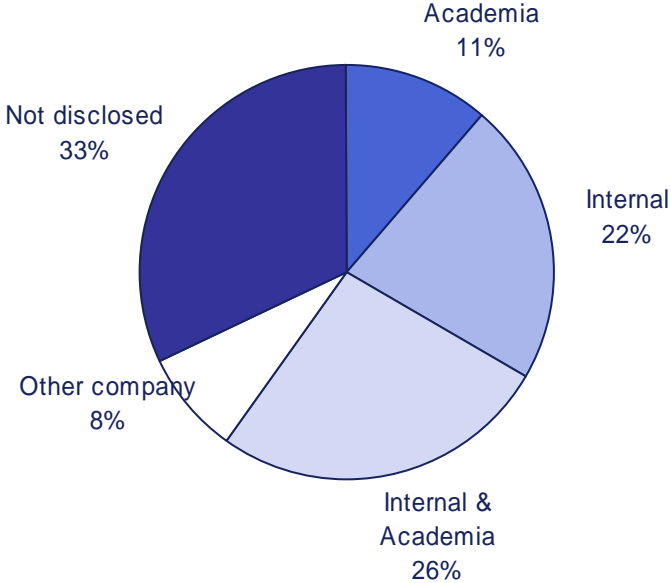
Note: Graph includes drugs from late pre clinical to phase three, Graph for AstraZeneca includes all products in pre clinical trials. Only projects that stem from AstraZeneca's Swedish R&D units are included (approx. 47%)

## The majority of projects in development by Swedish biotech companies are small molecules

Distribution of projects, small v.s. large molecules	Comments								
<p>A pie chart illustrating the distribution of projects in development by Swedish biotech companies. The chart is divided into three segments: 'Small molecules' at 58% (light blue), 'Large molecules' at 32% (dark blue), and 'Not disclosed' at 10% (very light blue).</p> <table border="1"><thead><tr><th>Category</th><th>Percentage</th></tr></thead><tbody><tr><td>Small molecules</td><td>58%</td></tr><tr><td>Large molecules</td><td>32%</td></tr><tr><td>Not disclosed</td><td>10%</td></tr></tbody></table>	Category	Percentage	Small molecules	58%	Large molecules	32%	Not disclosed	10%	<ul style="list-style-type: none"><li>■ The focus is on small molecules, due to strong research traditions from former Astra and Pharmacia</li><li>■ Small molecules are defined as molecules that can be chemically synthesized</li><li>■ Large molecules are defined as molecules that are developed and produced using biological systems</li><li>■ AstraZeneca is not included in this analysis</li></ul>
Category	Percentage								
Small molecules	58%								
Large molecules	32%								
Not disclosed	10%								

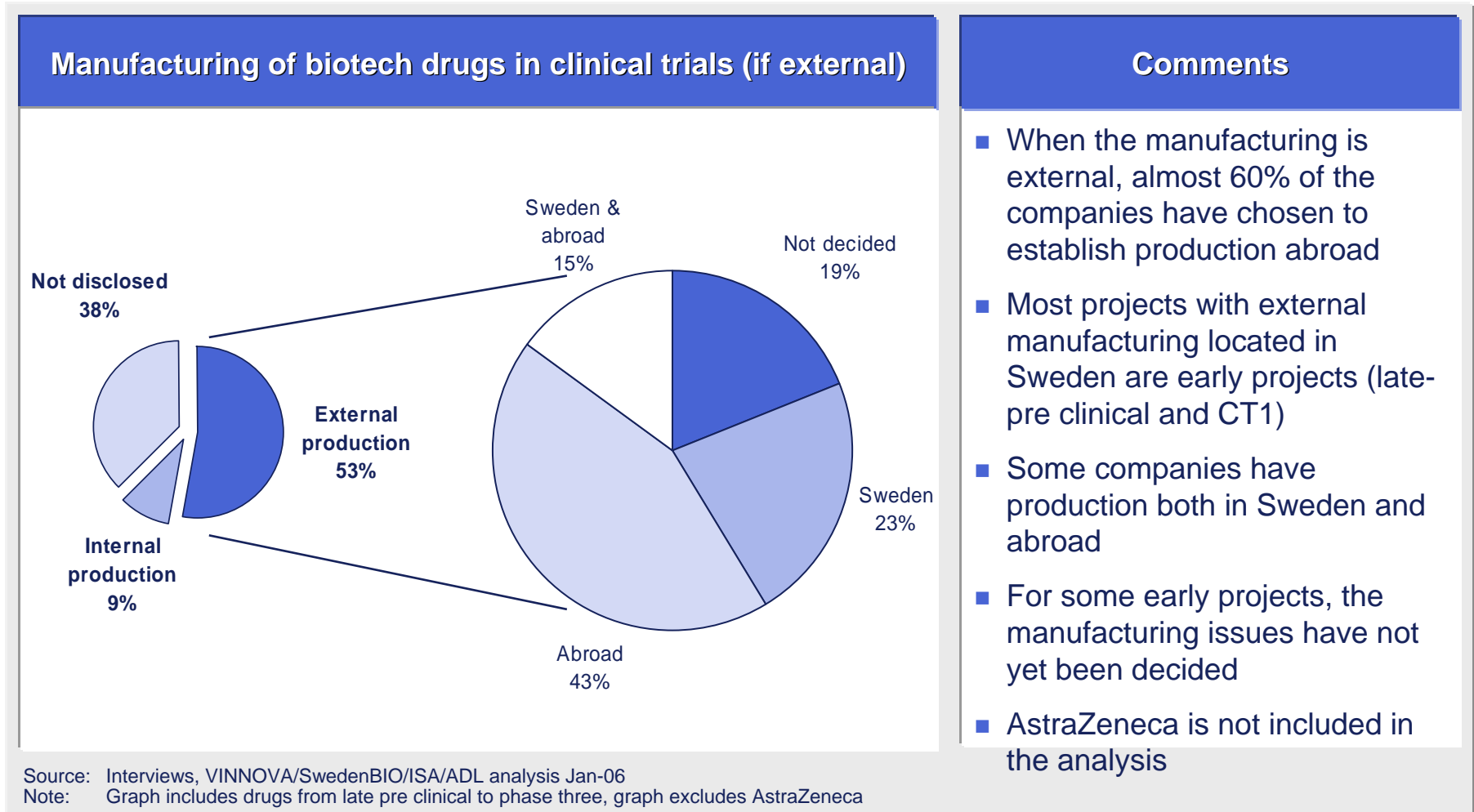
Source: Interviews, VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06  
Note: Graph includes drugs from late pre clinical to phase three, Graph excludes AstraZeneca

## The majority of projects originate from internal research in collaboration with academia

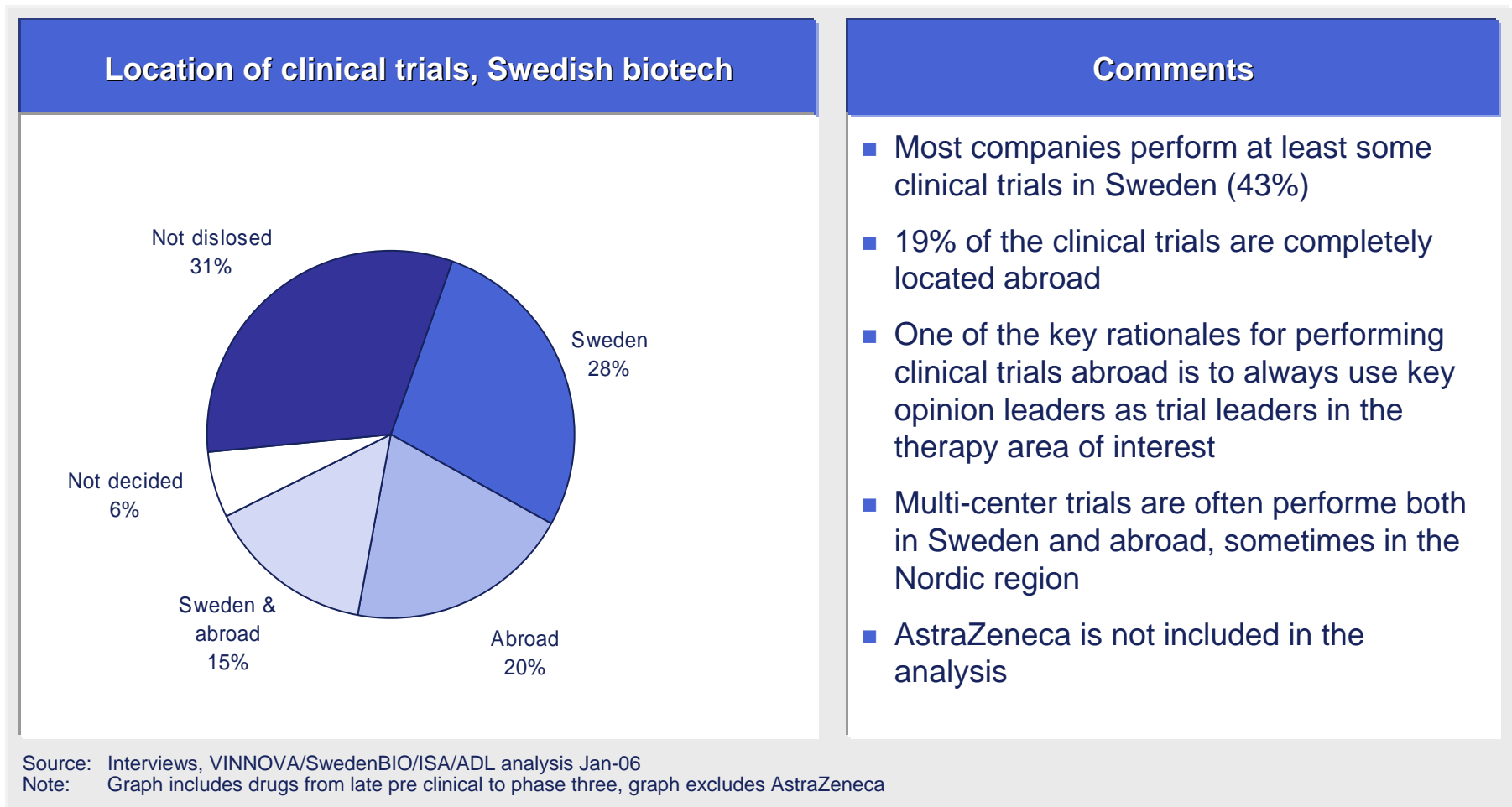
Origin of biotech drugs in development	Comments												
 <p>A pie chart illustrating the origin of biotech drugs in development. The chart is divided into five segments: 'Not disclosed' (33%), 'Internal' (22%), 'Internal &amp; Academia' (26%), 'Academia' (11%), and 'Other company' (8%). The segments are color-coded in various shades of blue.</p> <table border="1"><thead><tr><th>Origin</th><th>Percentage</th></tr></thead><tbody><tr><td>Not disclosed</td><td>33%</td></tr><tr><td>Internal</td><td>22%</td></tr><tr><td>Internal &amp; Academia</td><td>26%</td></tr><tr><td>Academia</td><td>11%</td></tr><tr><td>Other company</td><td>8%</td></tr></tbody></table>	Origin	Percentage	Not disclosed	33%	Internal	22%	Internal & Academia	26%	Academia	11%	Other company	8%	<ul style="list-style-type: none"><li>■ Most projects originate from internal research, or from collaborations with academia, i.e., only limited research is performed by academia (e.g. publication)</li><li>■ Only 11 % of the projects originate directly from academia, i.e., a significant amount of research is performed at the academic institution before transferred to a company</li><li>■ Few projects have been passed on directly from one company to another</li><li>■ AstraZeneca is not included in this analysis</li></ul>
Origin	Percentage												
Not disclosed	33%												
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Source: Interviews, VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06  
Note: Graph excludes AstraZeneca

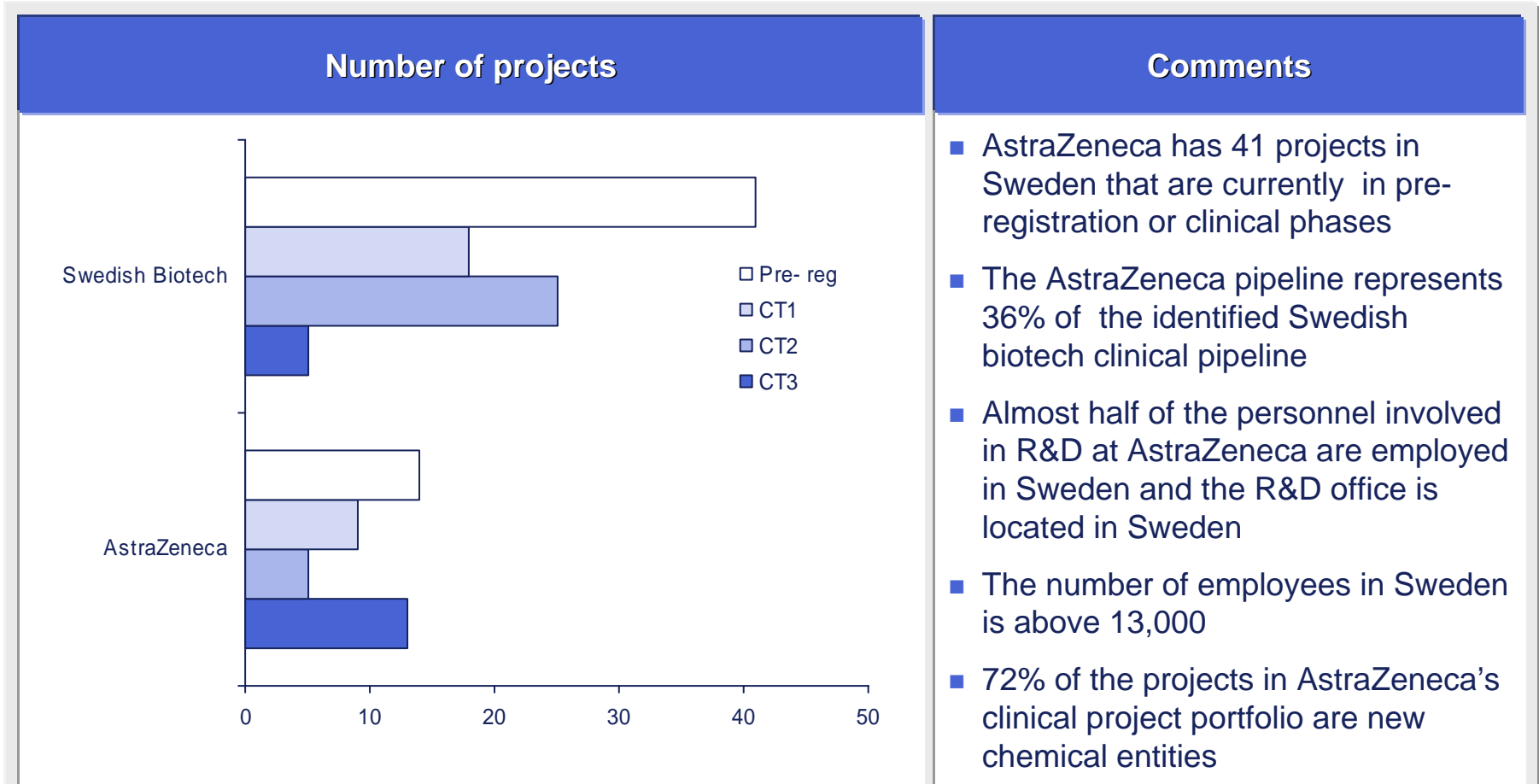
## The majority of the external production for clinical trials has been established abroad



## Over 40% of clinical trials are to some extent performed in Sweden



**AstraZeneca has approximately 40 projects in clinical trials which is about 30% of the identified Swedish biotech pipeline**



Source: VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06, AstraZeneca development pipeline (July 2005).pdf

Note: Only projects that stem from AstraZeneca’s Swedish R&D units are included (approx. 47%) , Graph includes new chemical entities and line extensions