

# swedenBIO

The Swedish Biotechnology Industry Organization

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

**Co-sponsors:**



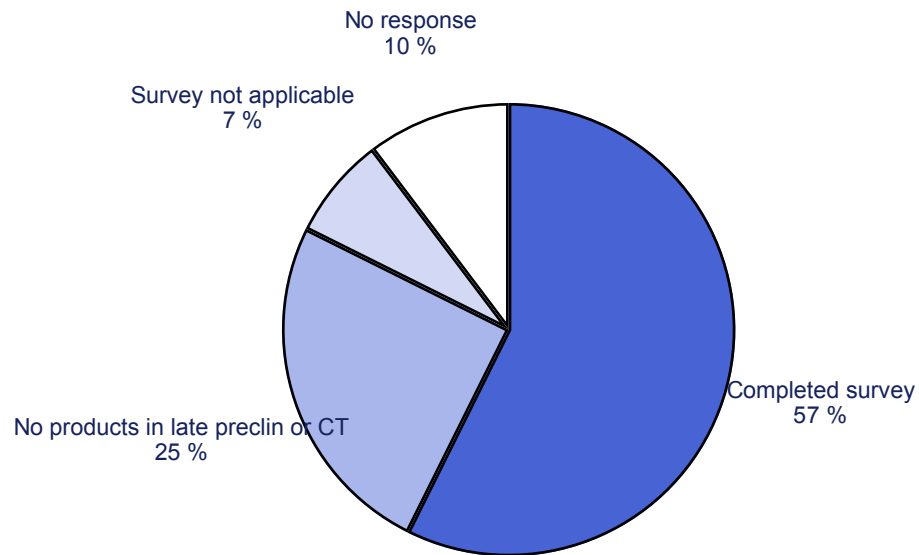
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## A Survey of the Swedish Biotech pipeline

- 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



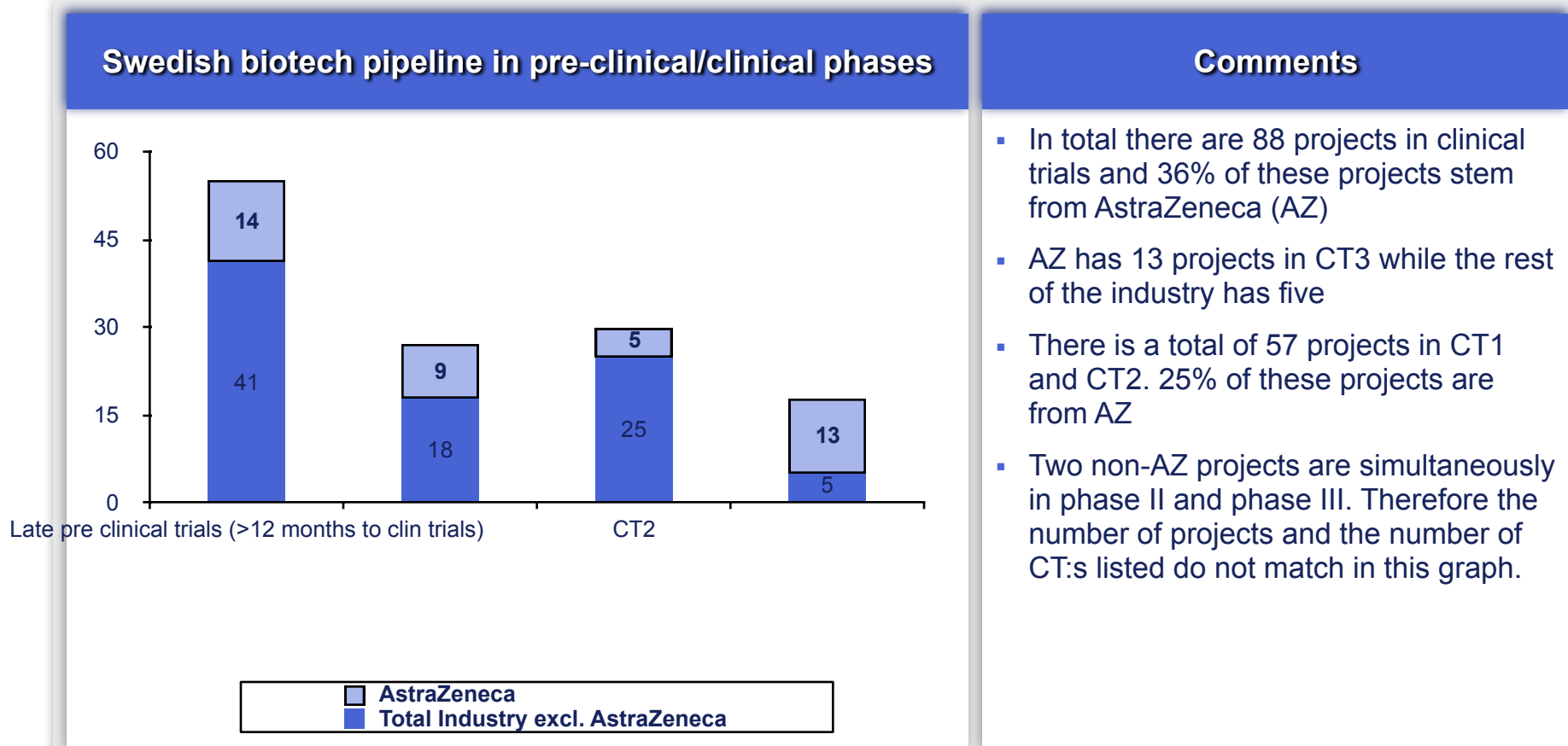
#### Comments

- 69 companies were contacted about participating in the survey.
- 58% of the companies answered the questionnaire
- 25% stated that they had no projects in late preclinical development or clinical trials
- 7% replied that the survey questions were not applicable to their projects.
- 10% of the companies either did not reply or stated that they did not wish to participate because of confidentiality agreements etc.
- In this presentation, only companies (39 ea.) with projects in pre-clin or CT have been included in the statistics

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

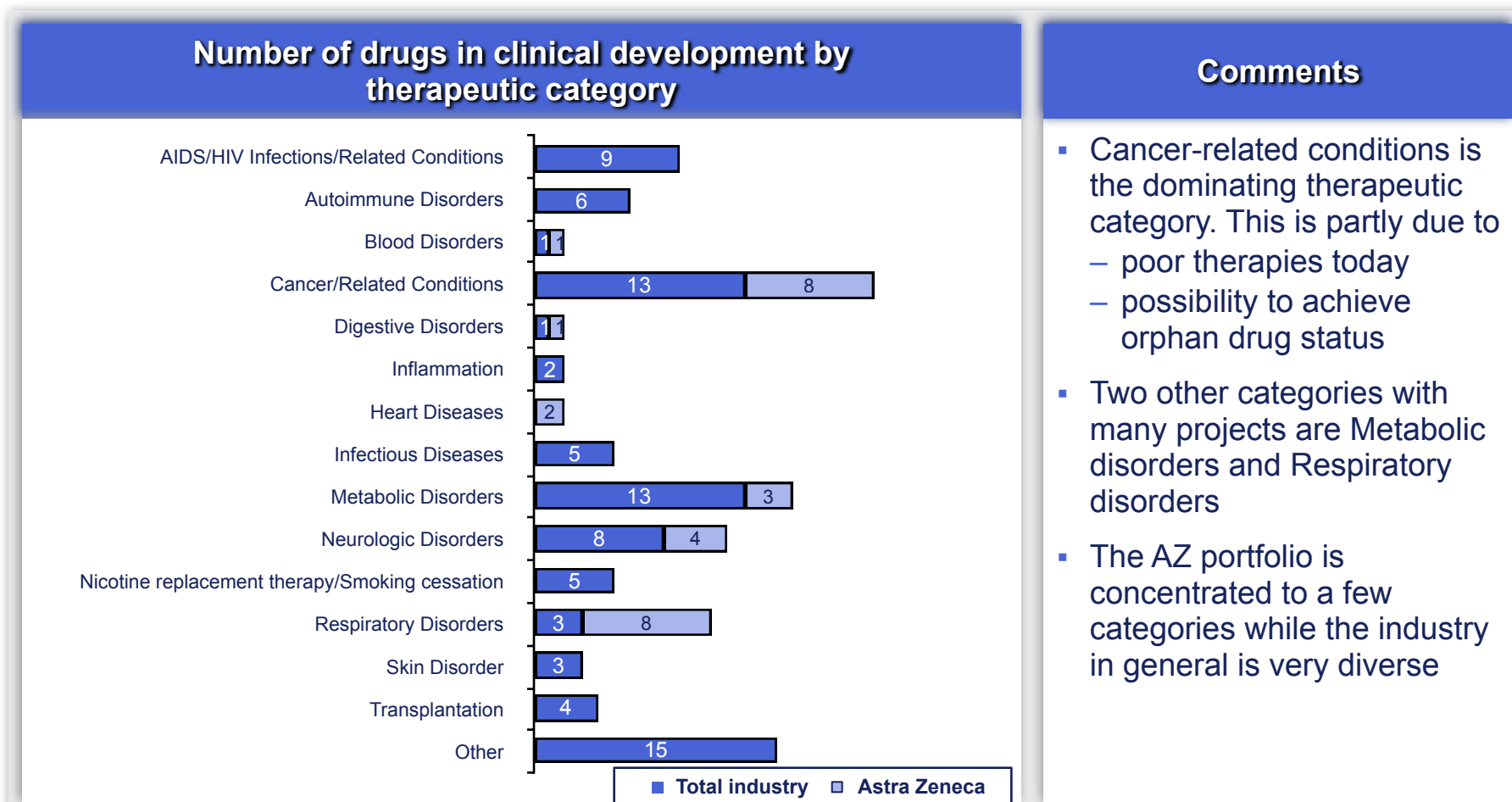
## The Swedish biotech pipeline has 128 projects in late pre-clinical or clinical trials. 41 of these projects stem from AstraZeneca



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

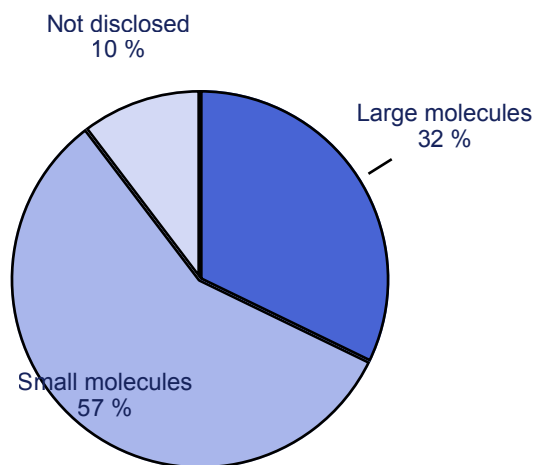


Source: Interviews, VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06, AstraZeneca development pipeline (July 2005).pdf

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



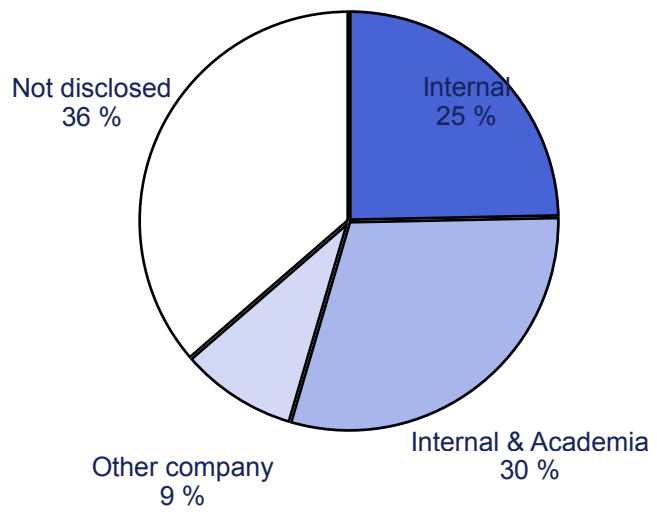
### Comments

- The focus is on small molecules, due to strong research traditions from former Astra and Pharmacia
- Small molecules are defined as molecules that can be chemically synthesized
- Large molecules are defined as molecules that are developed and produced using biological systems
- AstraZeneca is not included in this analysis

Source: Interviews, VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06

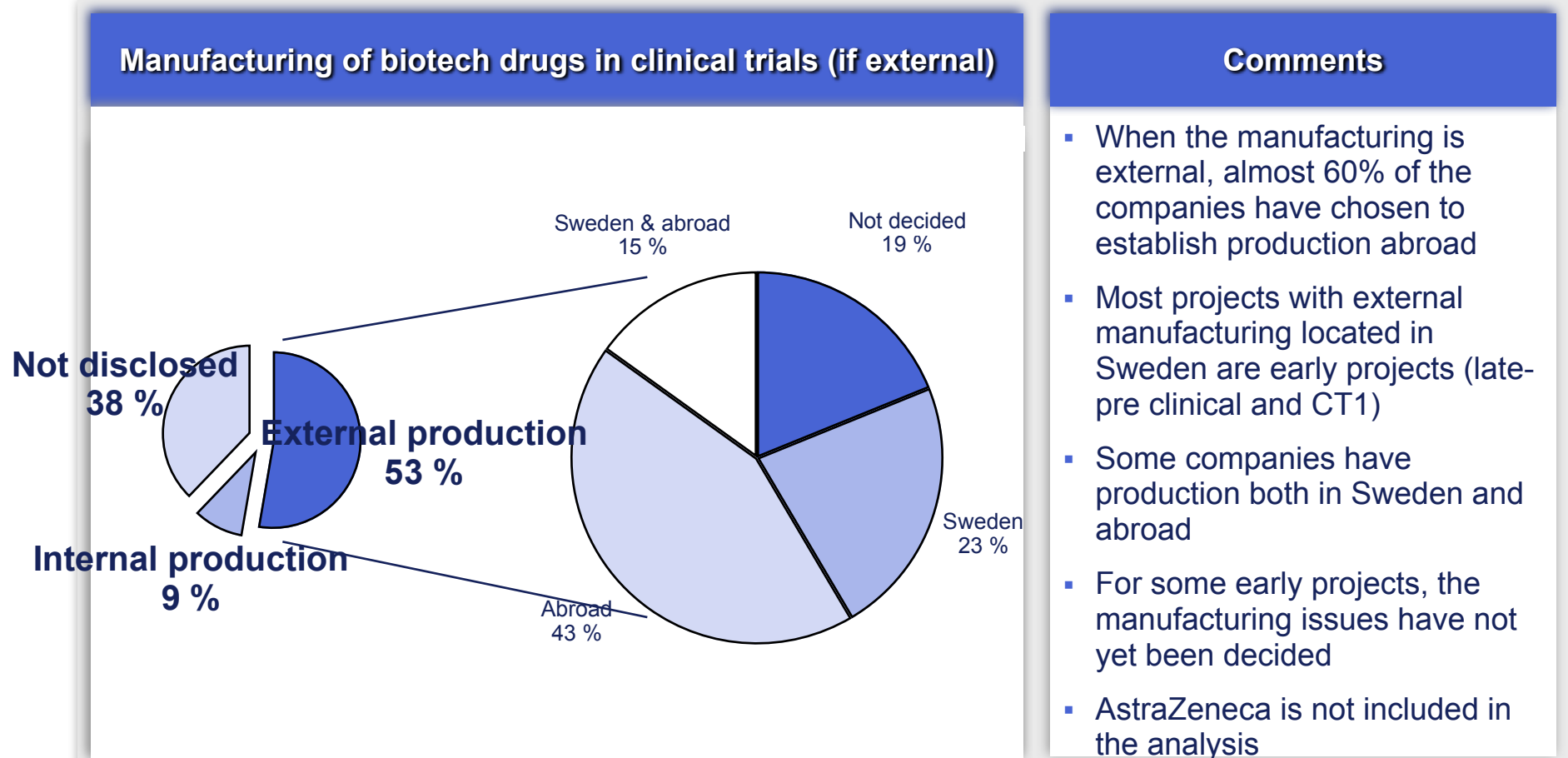
Note: Graph includes drugs from late pre clinical to phase three, Graph excludes AstraZeneca

## 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 four segments: 'Not disclosed' (36%), 'Internal' (25%), 'Internal &amp; Academia' (30%), and 'Other company' (9%).</p> <table border="1"><thead><tr><th>Origin</th><th>Percentage</th></tr></thead><tbody><tr><td>Not disclosed</td><td>36 %</td></tr><tr><td>Internal</td><td>25 %</td></tr><tr><td>Internal &amp; Academia</td><td>30 %</td></tr><tr><td>Other company</td><td>9 %</td></tr></tbody></table>	Origin	Percentage	Not disclosed	36 %	Internal	25 %	Internal & Academia	30 %	Other company	9 %	<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	36 %										
Internal	25 %										
Internal & Academia	30 %										
Other company	9 %										

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

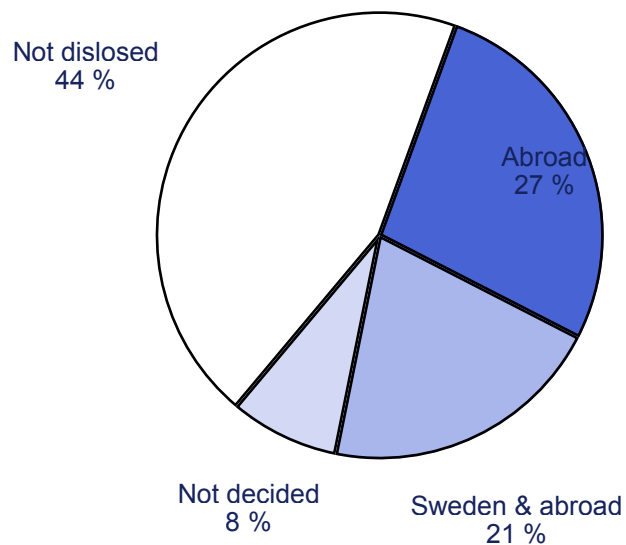


Source: Interviews, VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06  
Note: Graph includes drugs from late pre clinical to phase three, graph excludes AstraZeneca



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

#### Location of clinical trials, Swedish biotech



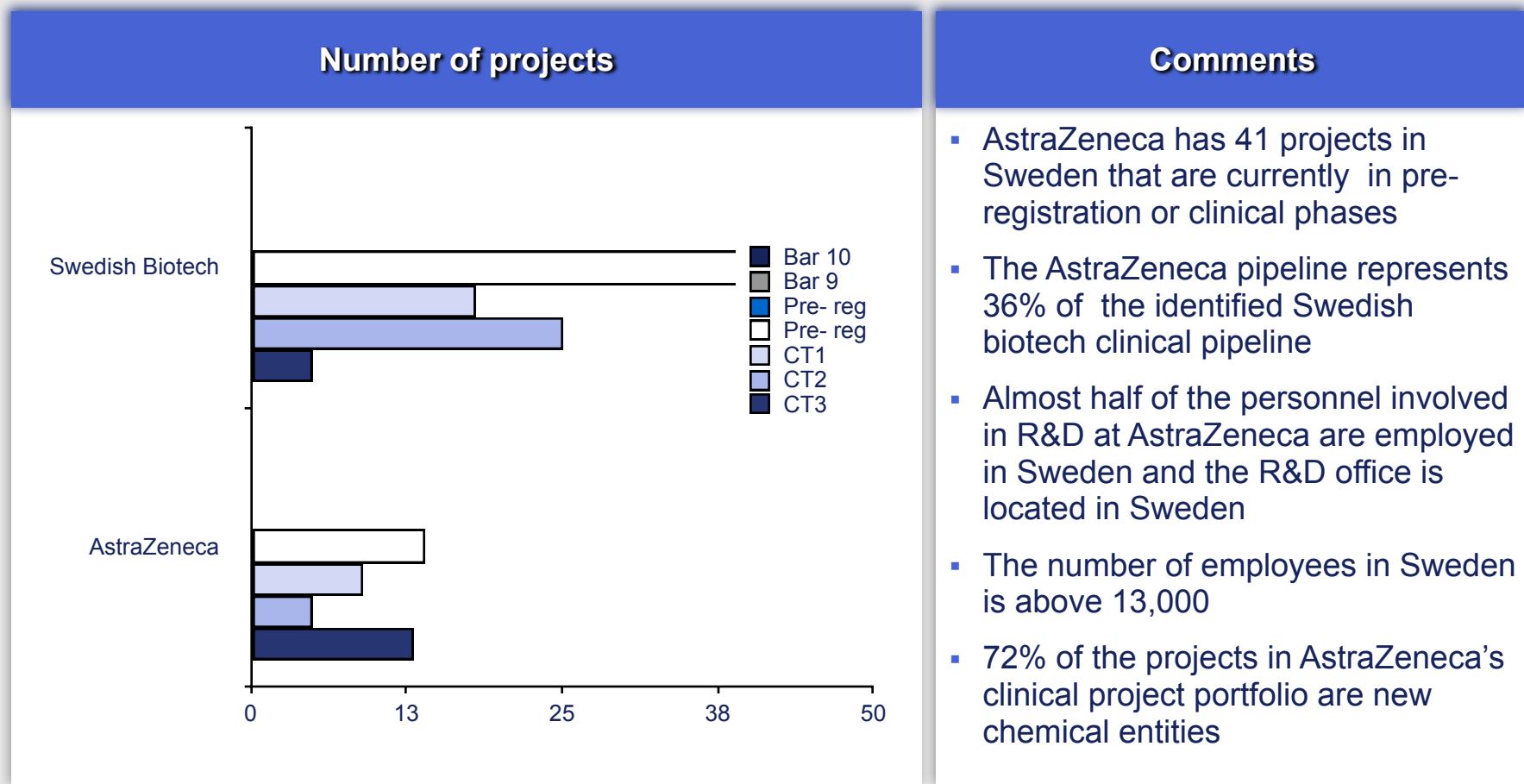
#### Comments

- Most companies perform at least some clinical trials in Sweden (43%)
- 19% of the clinical trials are completely located abroad
- One of the key rationales for performing clinical trials abroad is to always use key opinion leaders as trial leaders in the therapy area of interest
- Multi-center trials are often performed both in Sweden and abroad, sometimes in the Nordic region
- AstraZeneca is not included in the analysis

Source: Interviews, VINNOVA/SwedenBIO/ISA/ADL analysis Jan-06

Note: Graph includes drugs from late pre clinical to phase three, graph excludes AstraZeneca

**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