



BioDetection Systems

# Welcome address

## 6<sup>th</sup> BioDetectors 2012



Prof. Dr. Bram Brouwer  
CEO of BDS b.v.



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## Participants

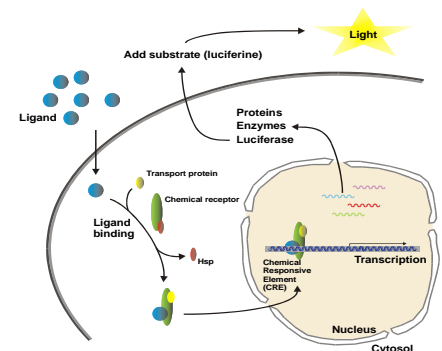
- 45 participants
- From 20 different countries
- Covering 5 continents
- In fields of food & feed, environment (water, soil/sediment), public health, waste management, pharma

## Why use Bioassays?

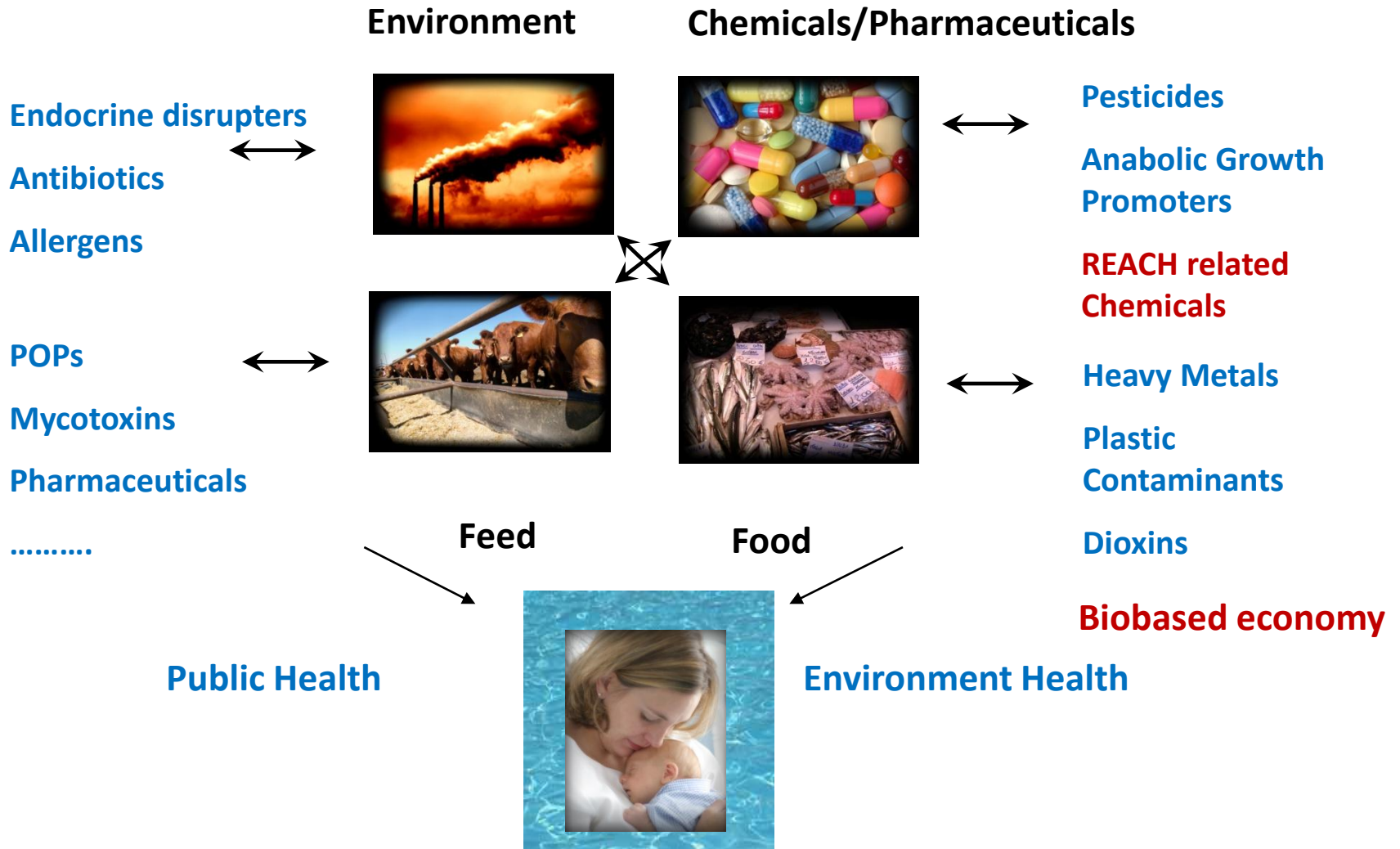
Bioassays, such as CALUX, provide an integrated measure of biological effect(s) of complex mixtures of known and unknown Chemicals, that is closest to hazard (risk) identification of exposure to those mixtures.

They can be operated in an automated mode and are extremely useful for screening purposes such as:

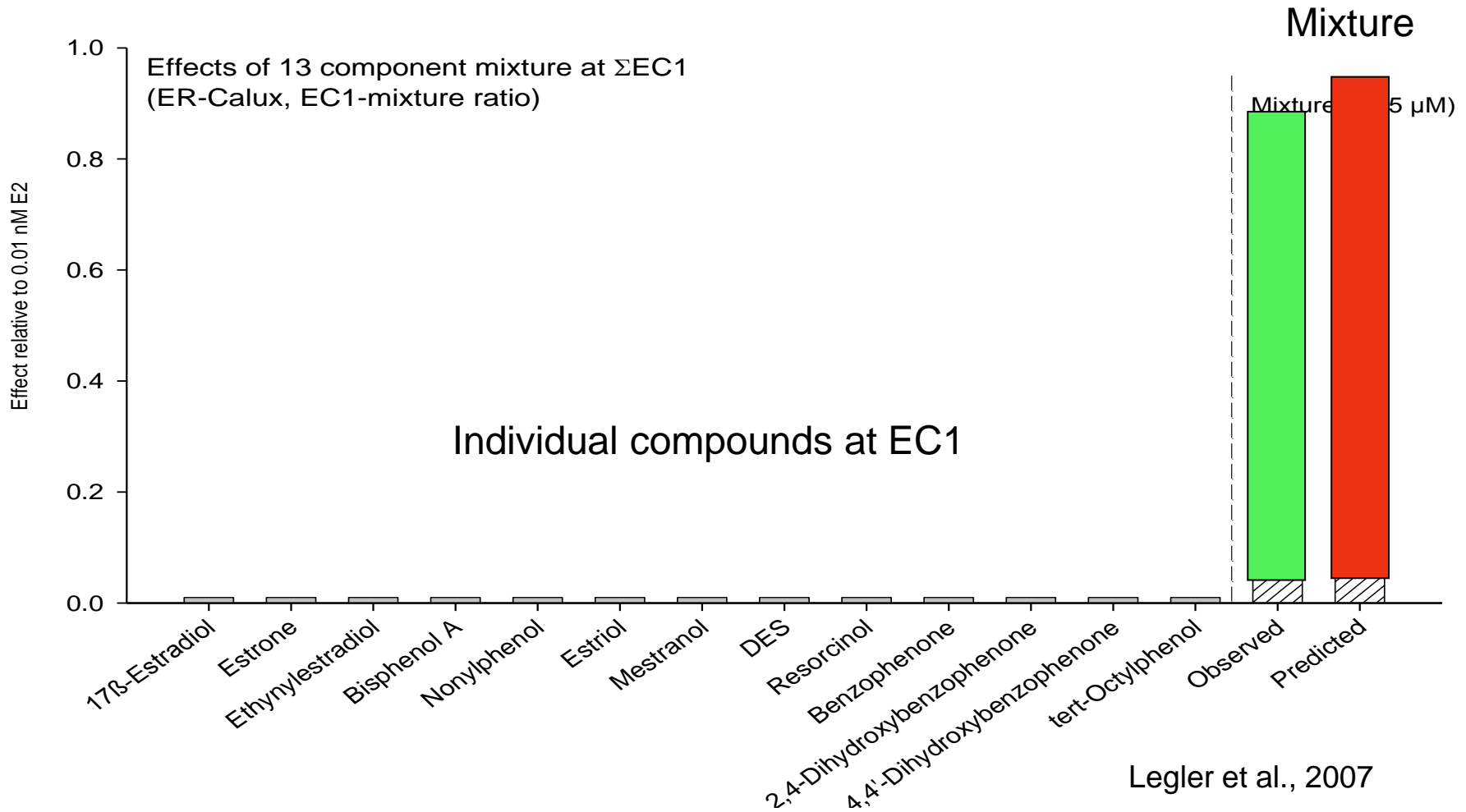
- identifying hot fractions,
- Mapping polluted sites,
- Discovering unknown chemicals
- Finding contaminated matrices among large volumes of samples,
- Internal exposure/effect parameter in human epidemiology



# Bioassays can measure integrated effects of chemical cocktails



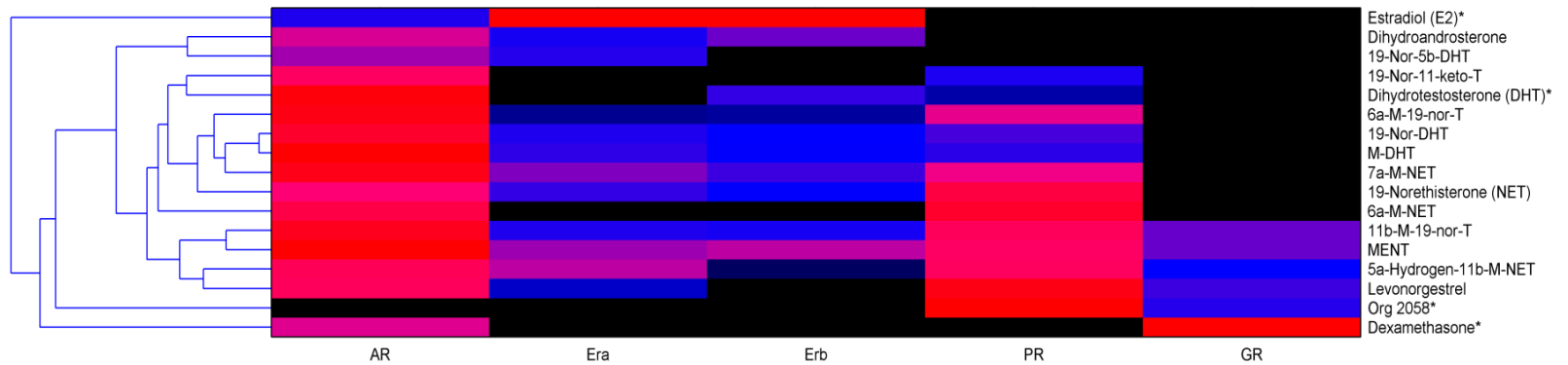
# Bioassays can pick up mixture effects



Legler et al., 2007



# Bioassays can detect unknown effects



Houtman et al., 2008



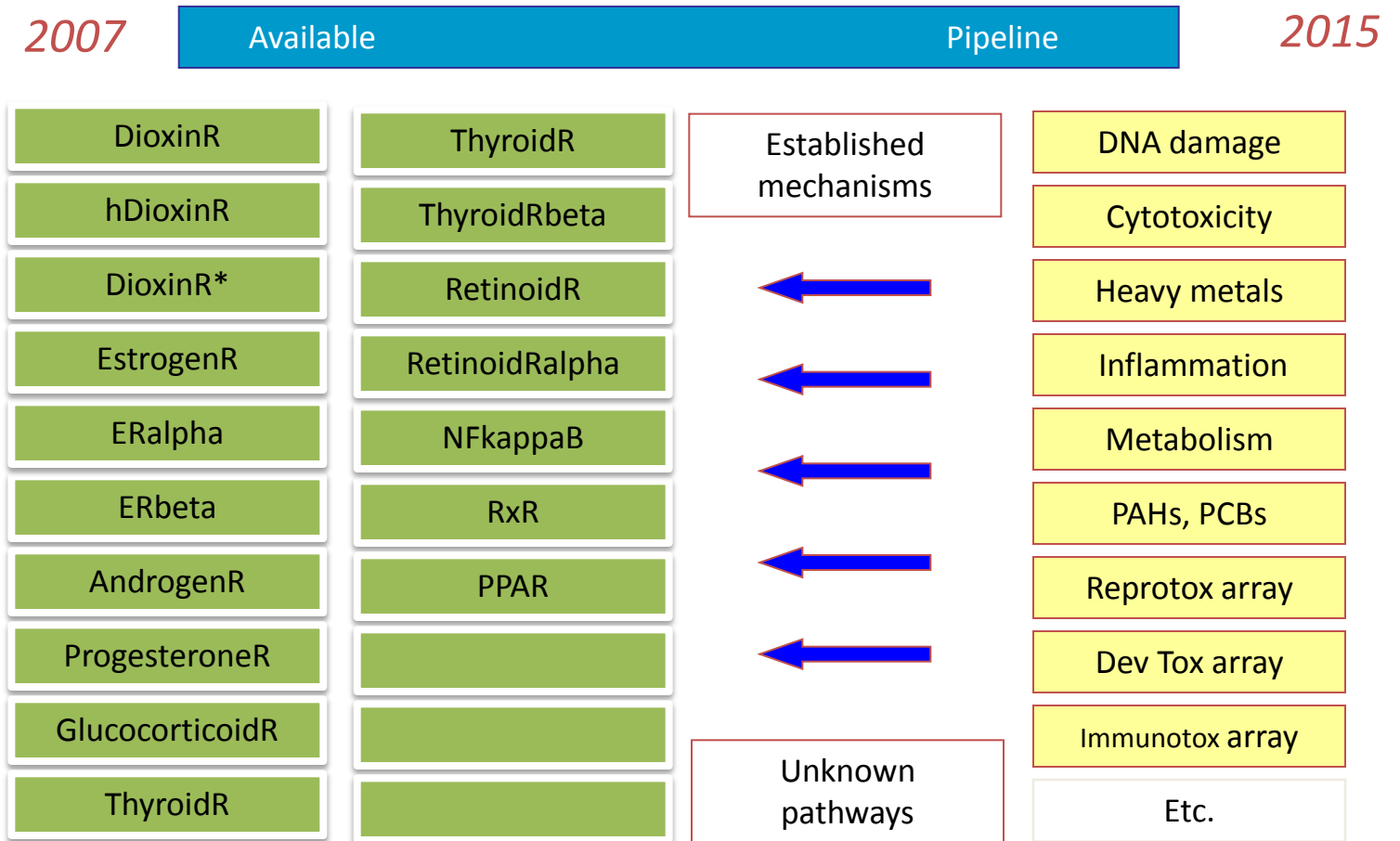
# Modern model for safety testing: tiered approach of bioassay and GC-MS analyses

Method	endogenous hormones <sup>1</sup>	extraordinary levels of endogenous hormones <sup>2</sup>	unknown designer steroids	multi drug abuse	chemical ID	inactive metabolites
CALUX bioassay	yes	yes	yes	yes	no	no
GC-MS	yes	yes	no	no	yes	yes



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# Expanding list of CALUX® bioassays by BDS



*More endpoints: expanding array of CALUX® in vitro assays*

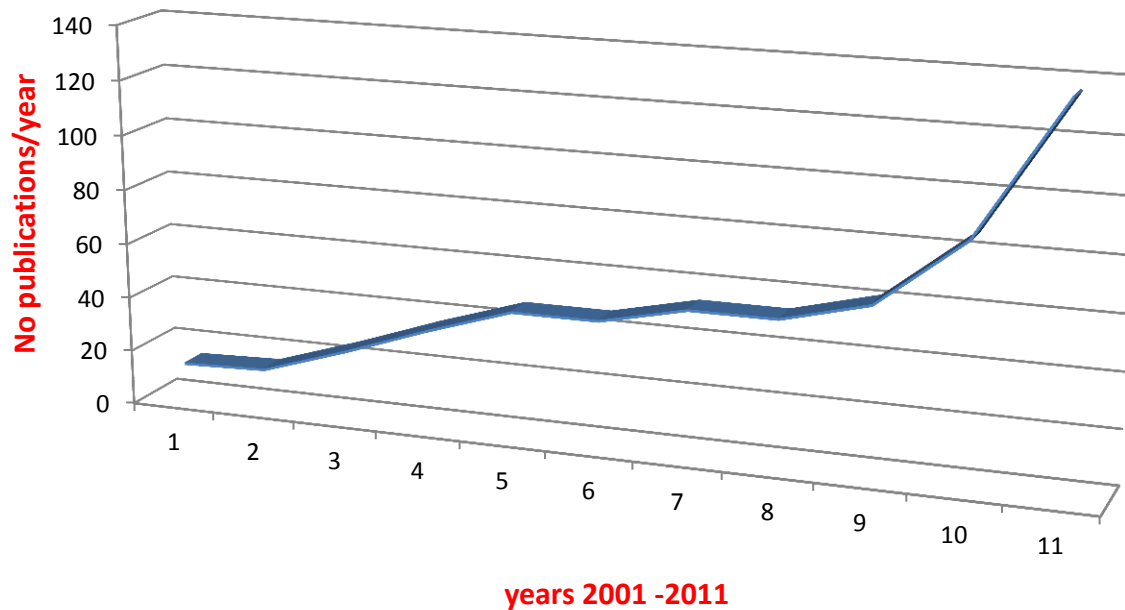




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# Use and implementation of CALUX technology in the scientific community

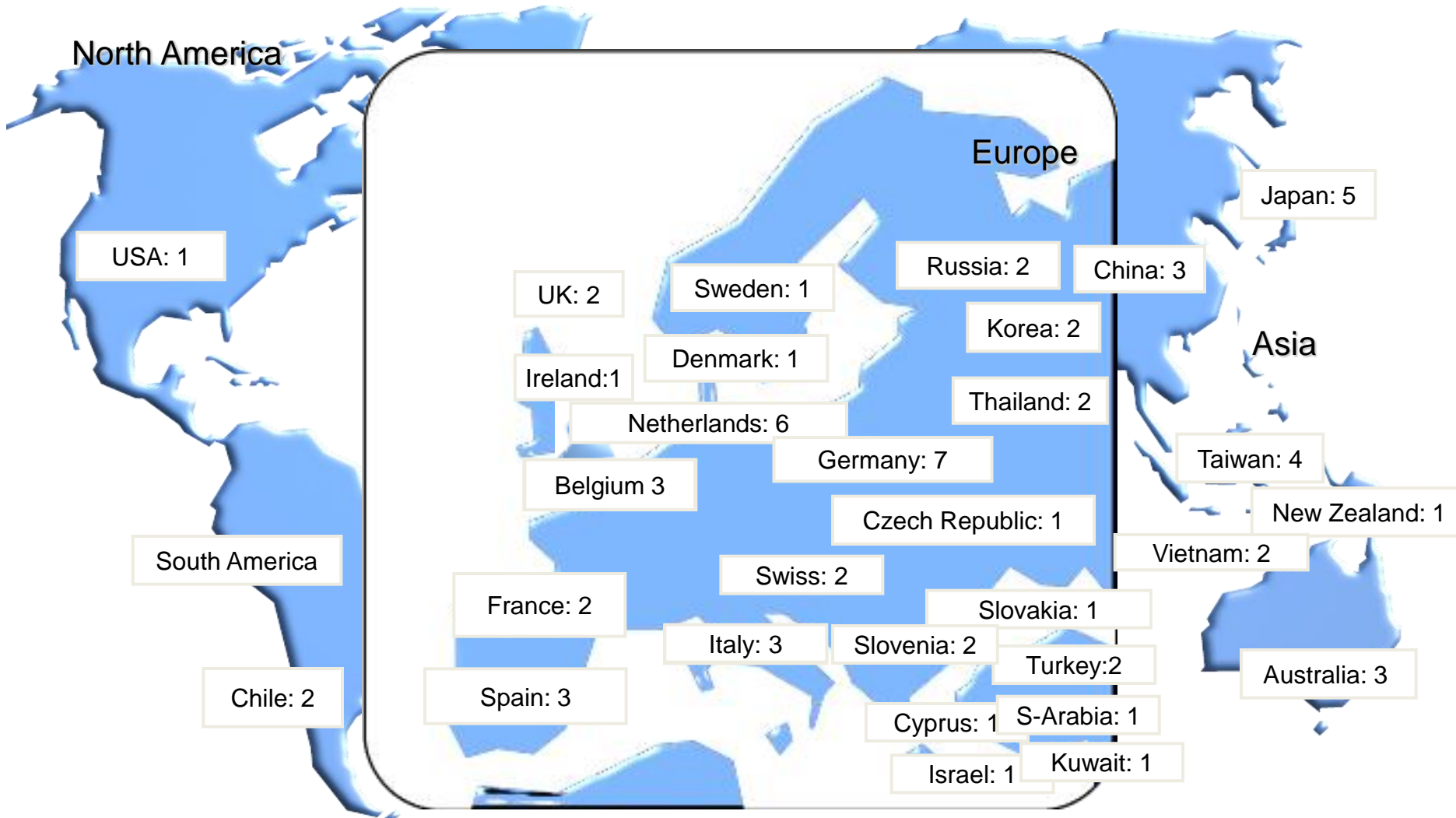
Number of Publications per year involving CALUX technology



CALUX “marketshare” 7% of all publications involving bioassays

# BDS global network of Licensee's

> 80



# Have a great time at our symposium and in Amsterdam!

