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Federal Department of the Environment,
Transport, Energy and Communications DETEC

Federal Office for the Environment FOEN
Division Hazard Prevention Division

Voluntary extension on the basis of consequence and risk assessment in Switzerland and transboundary consultations

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Major Accident Prevention Section**



Agenda

Requirements of the Convention

Effect calculations for a few selected substances

Voluntary extension of the scope of application

The Swiss approach



Requirements of the Convention

- *Art. 4, paragraph 1, of the Convention*

„...the Party of origin shall take measures, as appropriate, to **identify** hazardous activities within its jurisdiction and to ensure that affected Parties are **notified** of any such proposed or existing activity.“

- *Art. 4, paragraph 2, of the Convention*

„...Parties concerned shall, at the initiative of any such Party, **enter into discussions** on the identification of those hazardous activities that are, reasonably, capable of causing transboundary effects. ...“



Annex I and location criteria

According to Annex IV of the guidelines (ECE/CP.TEIA/2) in order to facilitate the identification of hazardous activities for the purposes of the Convention, hazardous activities capable of causing transboundary effects are defined as:

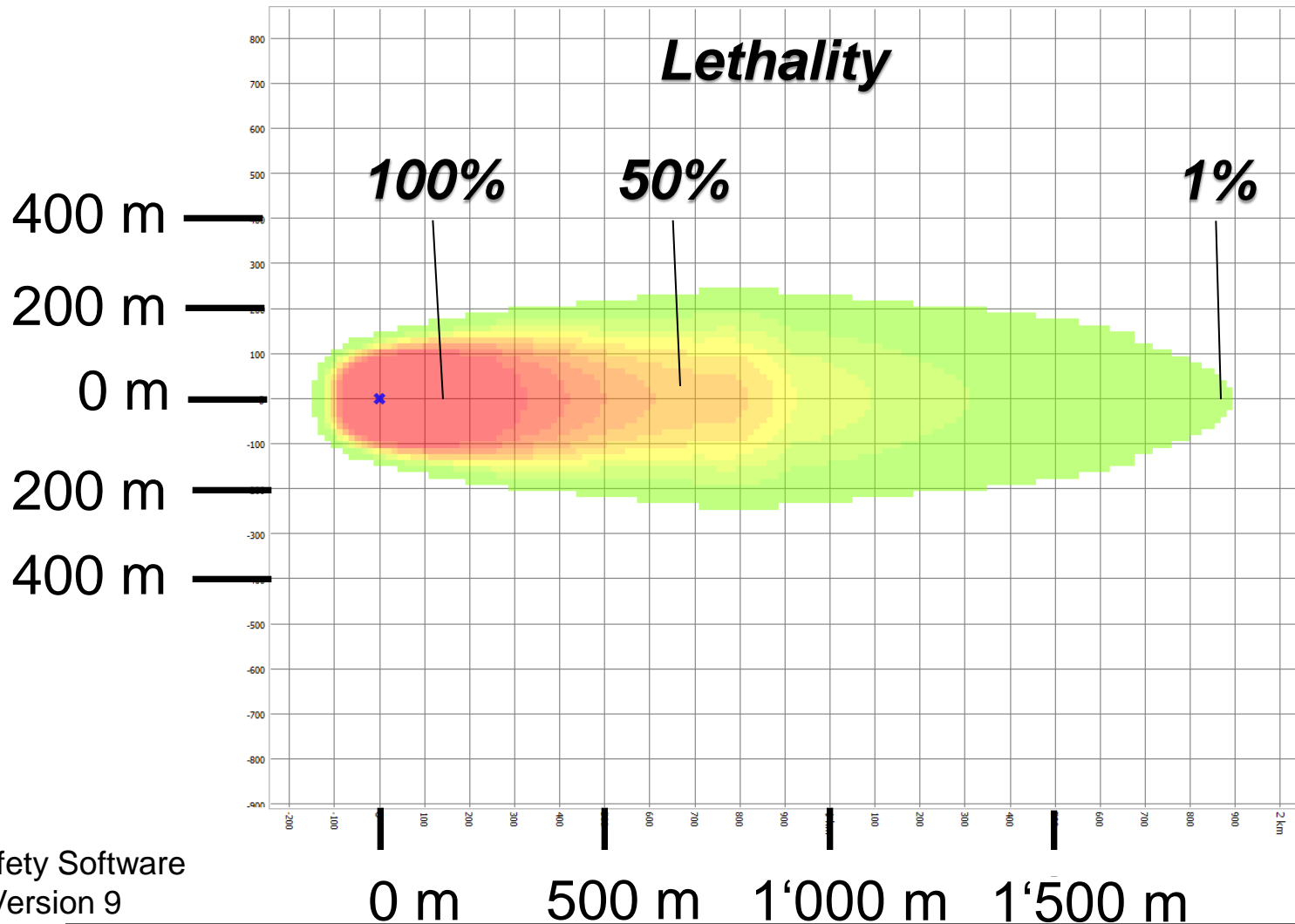


Annex I and location criteria

- a. One or more substances are present or may be present in quantities at or in excess of the threshold quantities listed in Annex I of the Convention
- b. The location criteria are met
 - e.g. Within 15 km from the border, for activities involving substances that may cause a fire or explosion or involving toxic substances that may be released into the air in the event of an accident.



Effect calculations for a few selected substances (chlorine 25 t Threshold quantity Annex I)

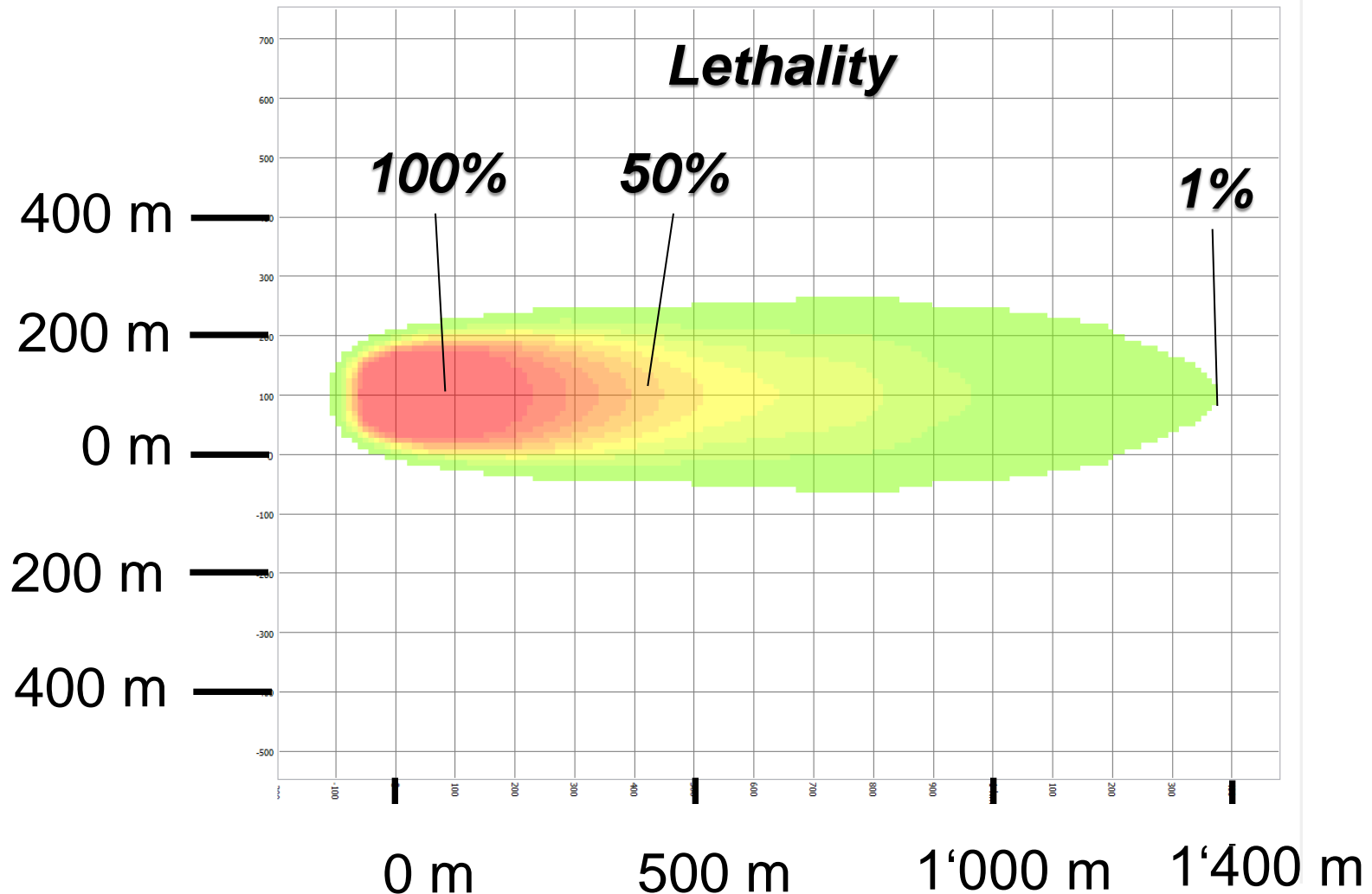


TNO Safety Software
Effects Version 9

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Raphaël Gonzalez, Federal Office for the Environment, Switzerland

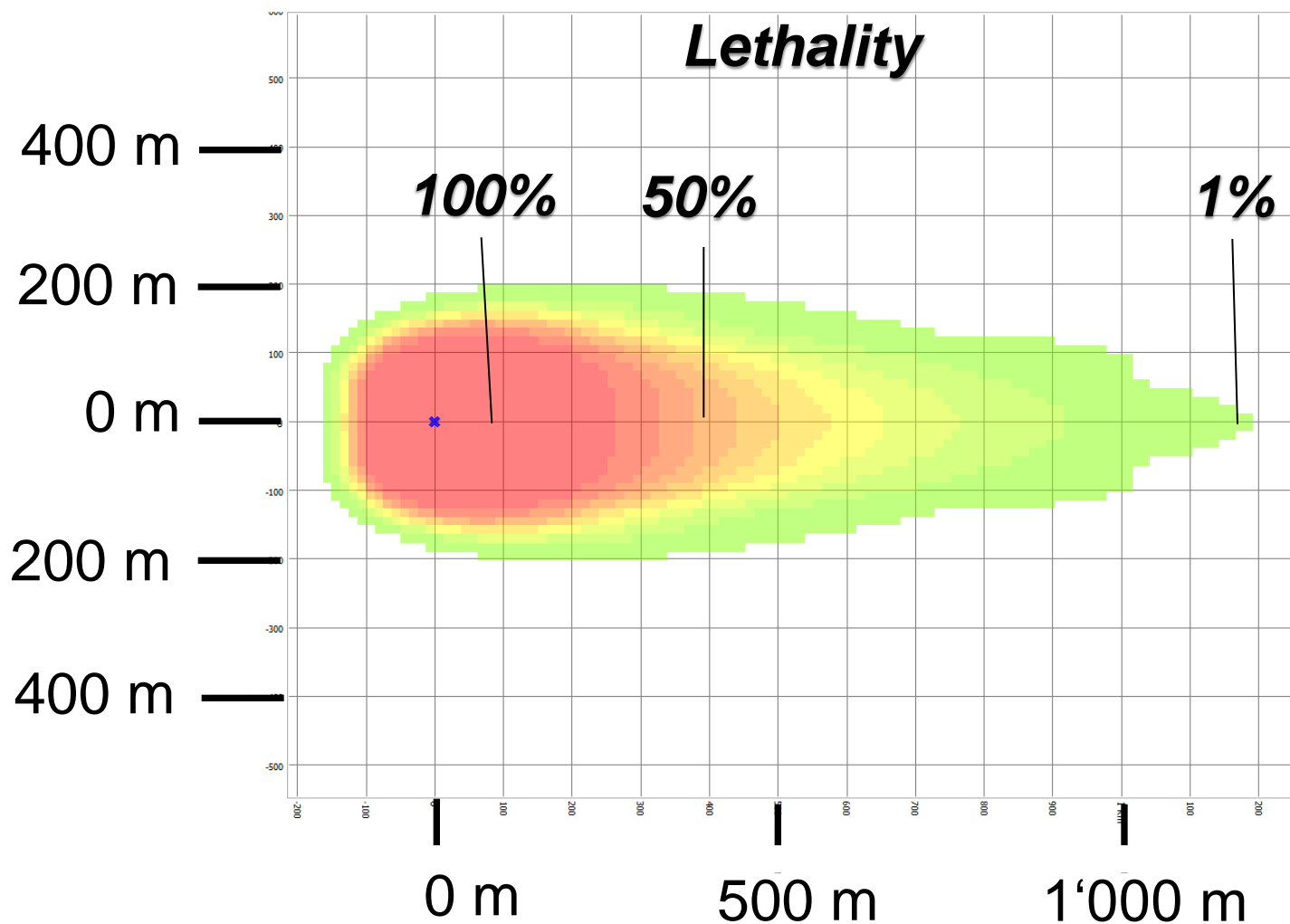


Effect calculations for a few selected substances (chlorine 12.5 t)



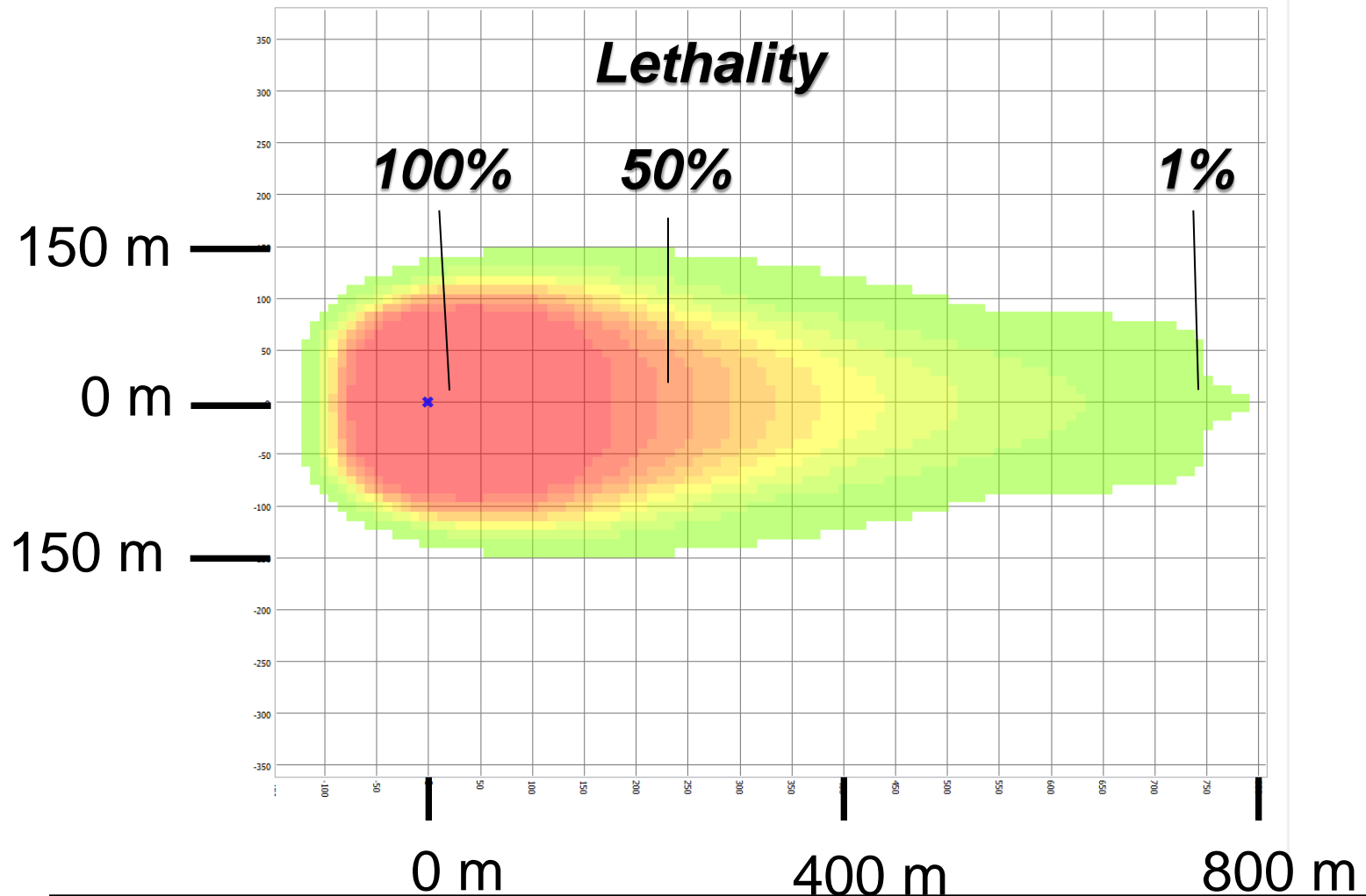


Effect calculations for a few selected substances (ammonia 200 t Threshold quantity Annex I)



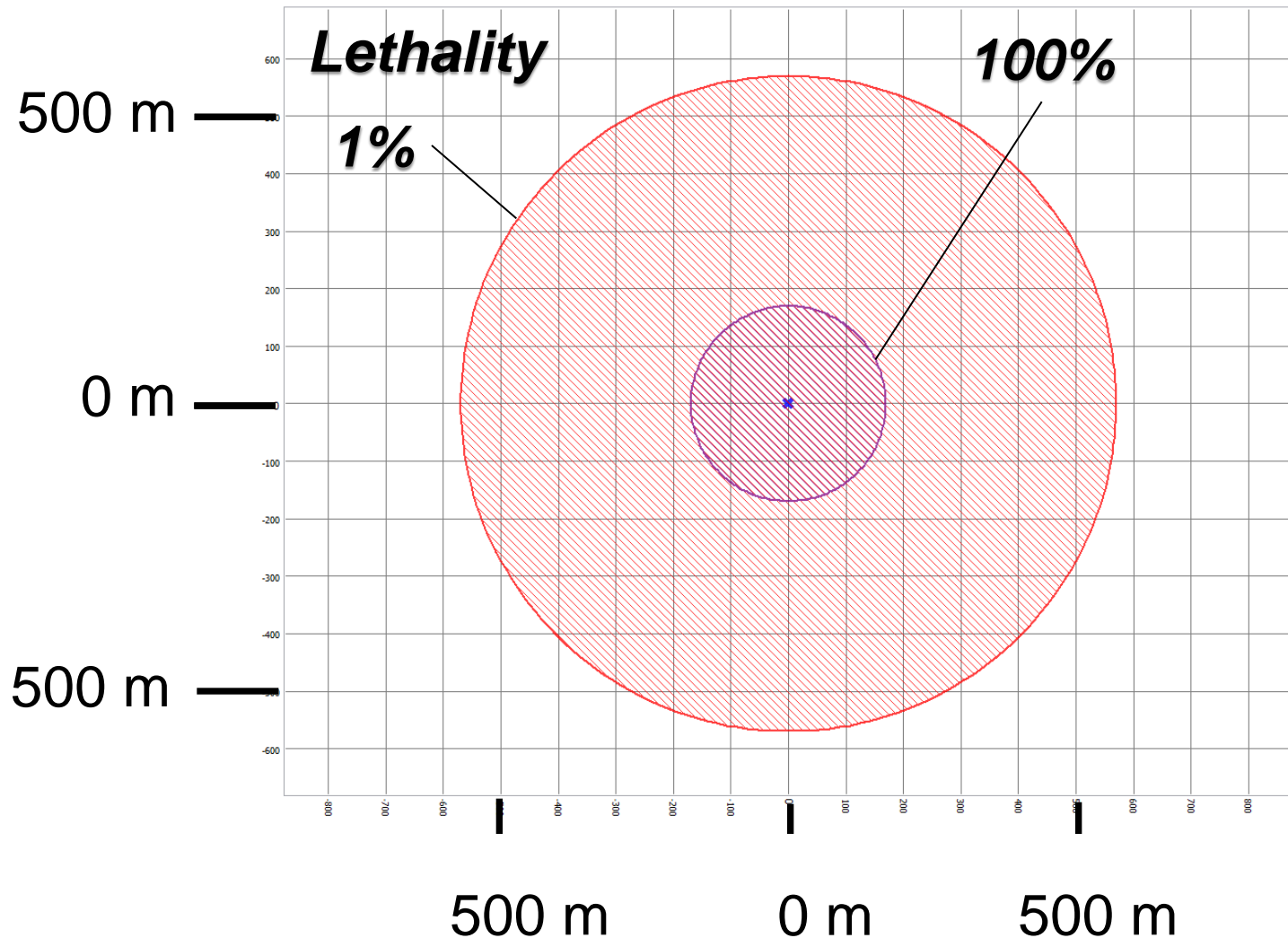


Effect calculations for a few selected substances (ammonia 100 t)



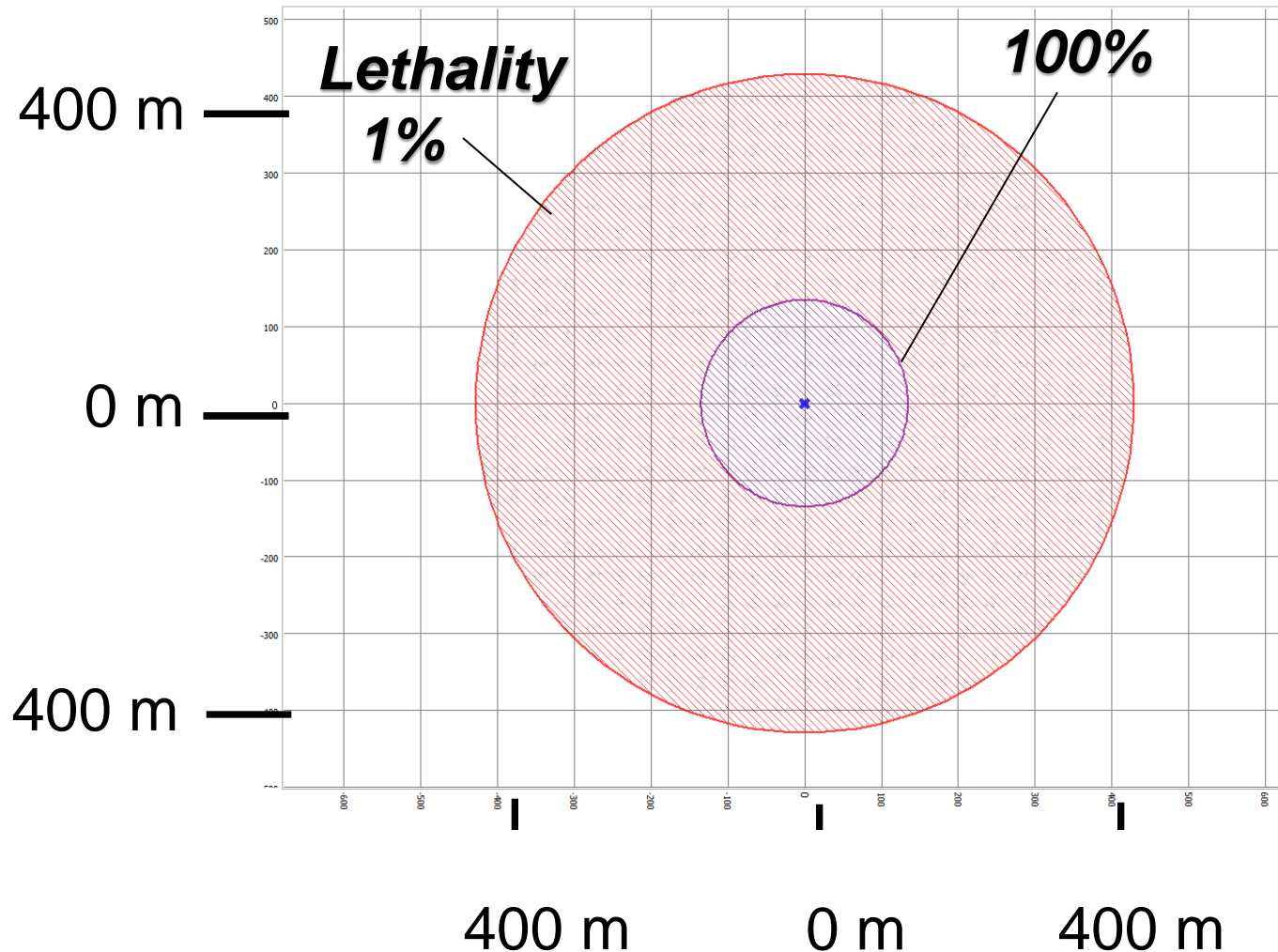


Effect calculations for a few selected substances (LPG 200 t Threshold quantity Annex I)





Effect calculations for a few selected substances (LPG 100 t)

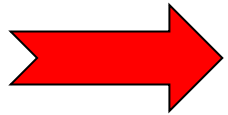




Annex I and location criteria

Conclusions from calculations

- Annex I threshold quantities for toxic substances are very high. Transboundary effects can take place with much lower quantities, if the establishment is close to the border.
- For the threshold quantities given in Annex I, the effect distances for toxic gases are much larger than for flammable substances.



Annex I and location criteria are good for a first „basic“ screening. For a detailed analysis and a serious discussion of transboundary effects, effect calculations are necessary.



Voluntary extension of the scope of application

Art. 5 of the Convention

„Parties concerned should, at the initiative of any of them, enter into discussions on whether to treat an activity not covered by Annex I as a hazardous activity. ... Whether the Parties concerned so agree, this Convention, or any part thereof, shall apply to the activity in question as if it were a hazardous activity.“



The Swiss approach

Identification of hazardous activities

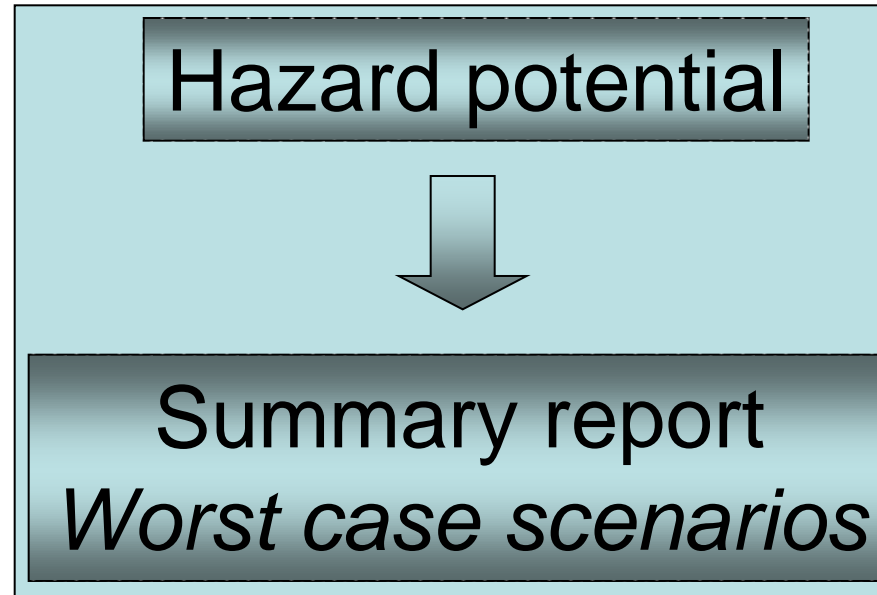
The identification of hazardous activities is based on the results of the application of the Ordinance on Major Accidents (MAO). Every operator of an installation falling in the scope of the MAO has to submit an assessment of the possible damages outside the installation and - when these damages can be serious – a quantified risk assessment.



The Swiss approach

Two step approach

Step 1



Step 2





The Swiss approach

Threshold quantities

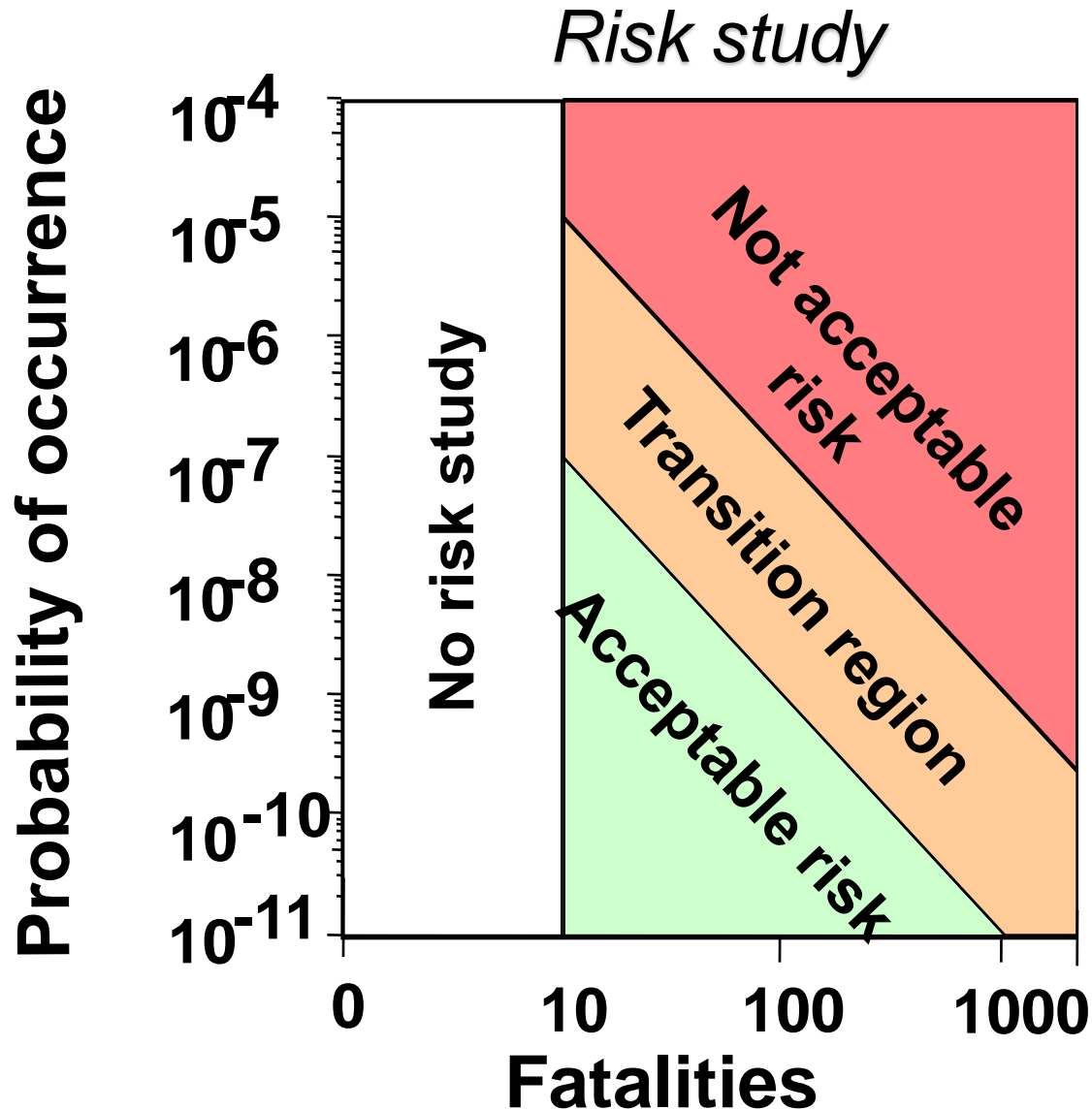
Classification	TQ¹⁾ kg CH	TQ²⁾ kg Convention
Acute toxic inhalation	200	20'000
Acute toxic dermal	2'000	20'000
Flammable gases	20'000	50'000
Acute hazardous to the aquatic environment	2'000	200'000

1) Threshold Quantities in Switzerland

2) Threshold Quantities in Annex I of the Convention



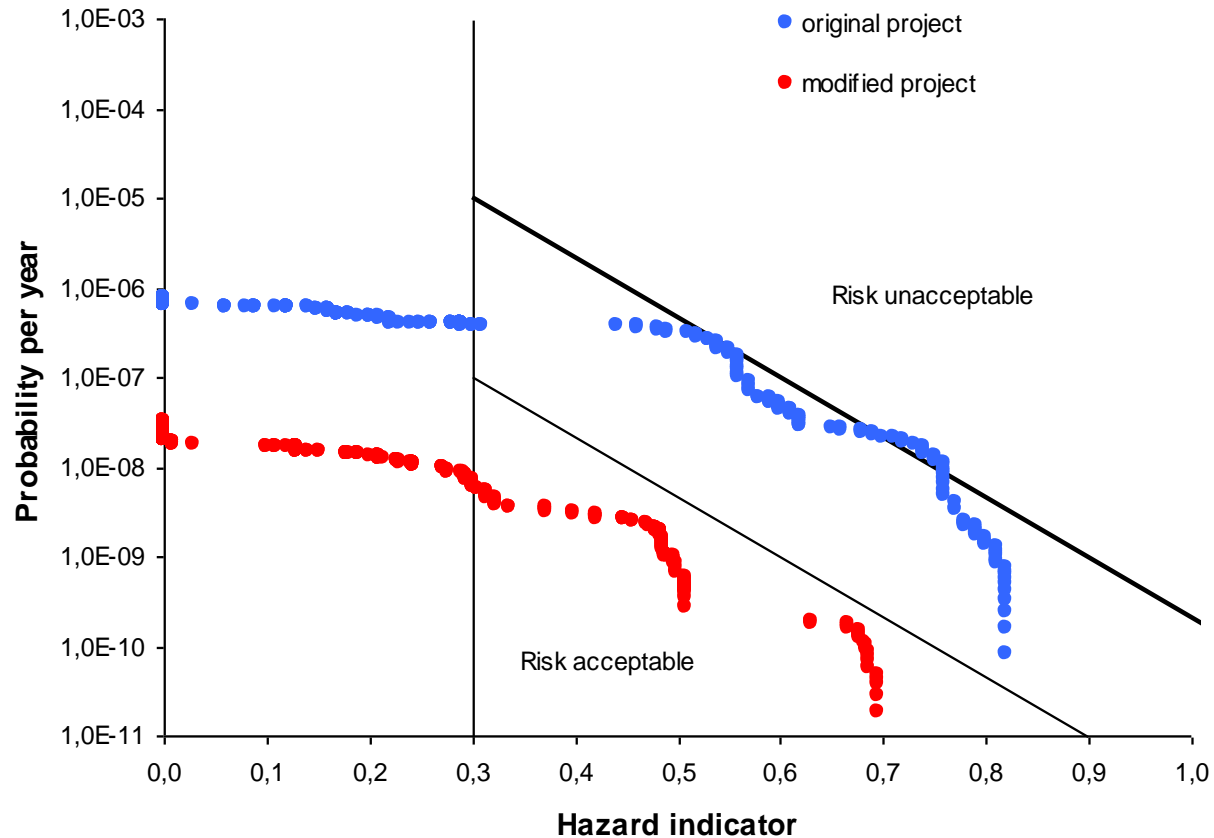
The Swiss approach





The Swiss approach

Risk study





The Swiss approach

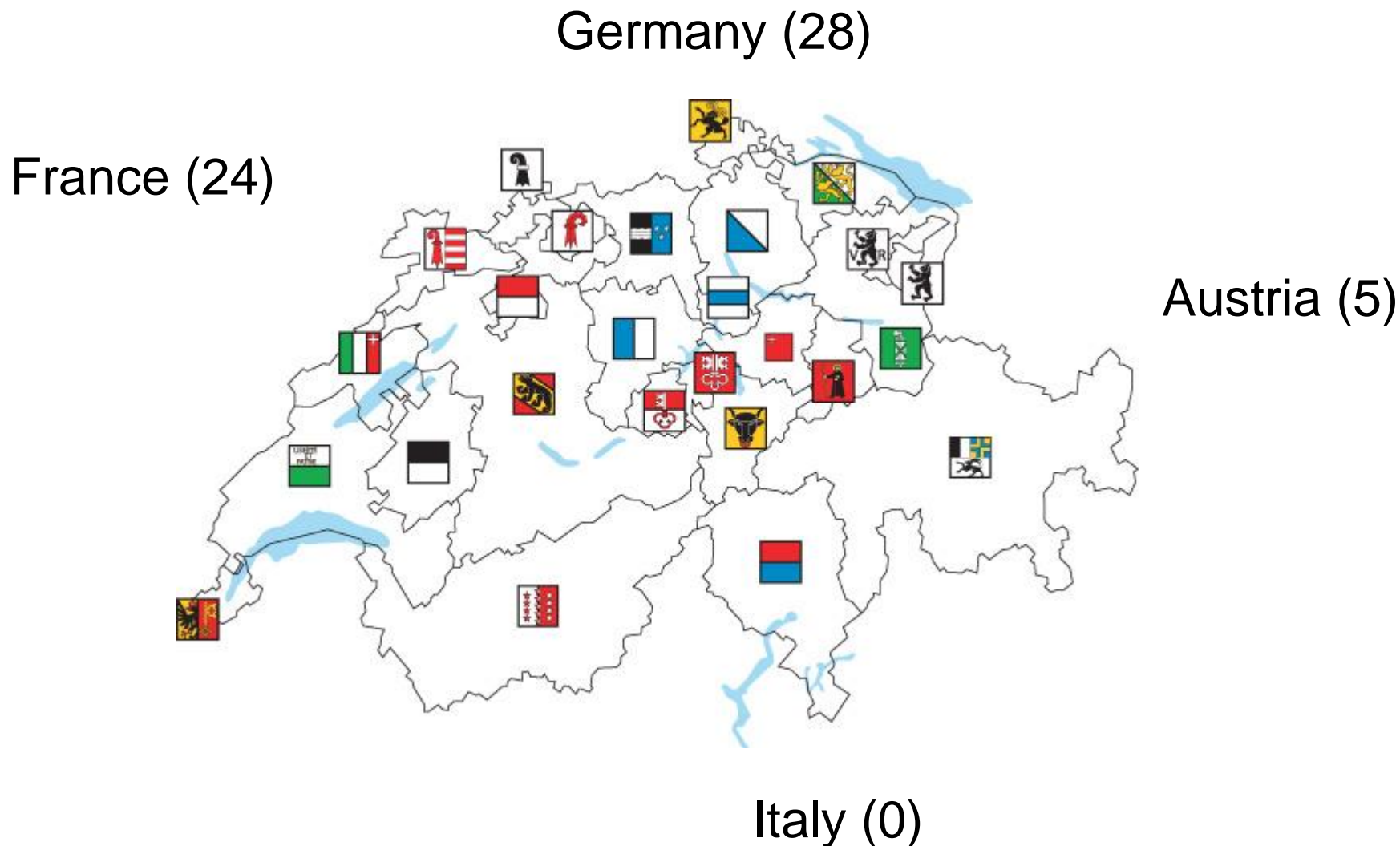
Notification of hazardous activities

Switzerland does normally also notify installations below the threshold quantities covered by Annex I according to article 5 and the voluntary extension, if serious transboundary damage cannot be excluded.



The Swiss approach

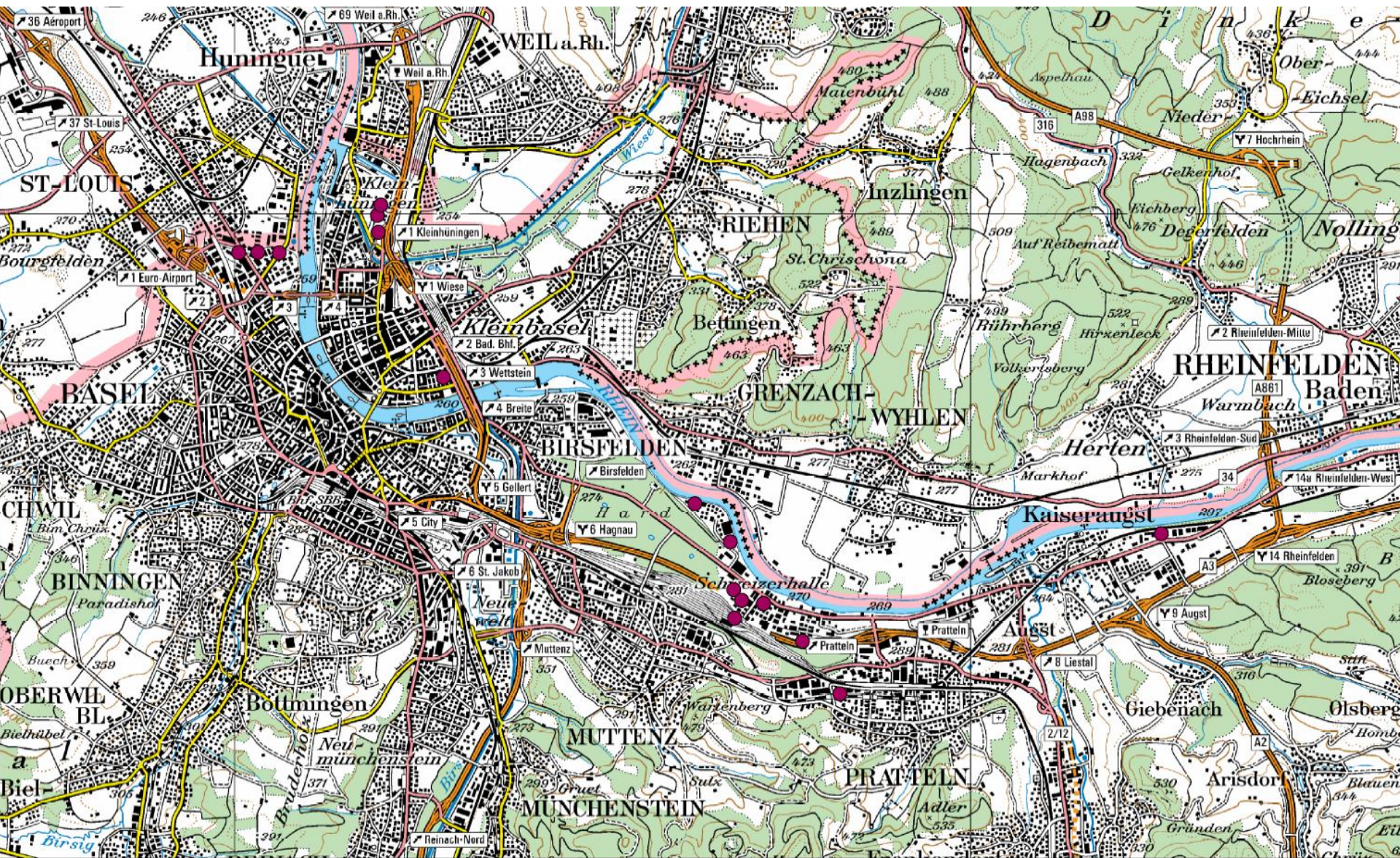
Notification of hazardous activities





The Swiss approach

Notification of hazardous activities



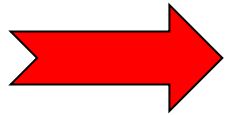
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The Swiss approach

Consultation with neighbouring countries

- Consultation has taken place with the neighbouring countries.
- In 2012 for example, a consultation has taken place with Austria. During the two meetings, the **national** and **regional** levels were involved in the discussions in order to determine their tasks in case of an accident.



It is important that the national and regional levels take both part to the consultation meetings, since the regional levels are responsible for the emergency and first response planning.



The Swiss approach

Consultation with neighbouring countries

As to the transboundary collaboration in matter of prevention and preparedness, it is worth mentioning the Agreement between the Swiss Federal Council, the Government of the Federal Republic of Germany and the Government of the French Republic on the transboundary co-operation in the Upper Rhine Area as well as the Agreement on the International Commission for the Protection of the Rhine (ICPR).



Thank you very much for your attention!

