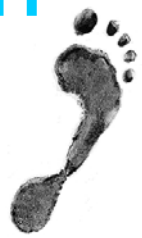
FOOTPRINT

Beyond FOOTPRINT



Outline

> To discuss the application of FOOTPRINT in EU Member States and the organisation to put in place to support the tools in the long term

> PPT presentation which covers:
- the long-term maintenance and support of the tools
- the progress in setting-up the "beyond FOOTPRINT" organisation
- applications of FOOTPRINT in the EU

> A discussion session in groups

Important preamble

> Most of what follows is a personal view

> Differentation clearly made between
- FOOTPRINT – the EU project
- FOOTSTEP – the new dissemination organisation

Keeping FOOTPRINT alive beyond the EC funding

The FOOTSTEP initiative

A call for long-term support

> FOOTPRINT has developed the 3 tools during the 3.5 years of the project

> There has been numerous calls for 'something' to be put in place to ensure that
- The tools are being supported in the long term
- The tools are being deployed at a large scale
- Users benefit from training and support
- Improved versions of the tools are being developed

> This was raised at a very early stage in the project (February 2006, Kick-off meeting in Orléans!)

> FOOTPRINT partners will do their best to maintain and provide free access to the FOOTPRINT tools in the long term

What if we don't?

> FOOTPRINT will finish as a report on a shelf and a series of papers

> The project outcomes will not be supported in the long term

> Limited training will be provided and in a very limited number of countries, based on good will of a few FOOTPRINT partners

> FOOTPRINT will not have contributed to the limitation of the transfer of pesticide to water resources

> Note that this is not the easy way out and very few research projects (at least in our field) end-up creating a support organisation

Progress over the 3.5 years

> First call for a follow-up organisation at the kick-off annual meeting
> From the "dissemination body"…
> … to "FOOTPRINT+"…
> … to "FOOTSTEP"
> … to "?????????"

Options considered

> Incorporation into an existing organisation
- A FOOTPRINT partner?
- A European organisation: EEA? JRC? EC?

> Creation of a dedicated organisation
- An association?
- A not-for-profit organisation? A charity?
- A start-up company?

> Why a start-up company?
- Flexibility with regard to recruitment (decision, profiles)
- Ease of decision-making
- Speed of reaction
- Lack of bureaucracy
- Independence

FOOTSTEP

> Start-up, commercial company
> Based in Orléans in France
> Operational in the whole of the European Union

Mission statement

> FOOTSTEP will actively contribute to the reduction of transfers of pesticides to water resources throughout Europe …
> … by providing agricultural and environmental stakeholders with innovative tools based on the latest research developments and which are adapted to their needs

FOOTSTEP activities

> Provide long-term support and maintenance of the FOOTPRINT tools
> Organise training (of users, of trainers)
> Develop new risk assessment and management tools which address the shortcomings of the FOOTPRINT tools (FOOTSTEP SP, FOOSTEP PRO, FOOTSTEP Alerts)
> Undertake / collaborate in research activities

FOOTSTEP and research

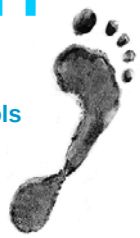
> FOOTSTEP will do some research internally, incorporate existing research and commission research
> FOOTSTEP aims at establishing long-term links with research groups
> FOOTSTEP will fill a gap
- between researchers and practitionners (extension services, farmers, local authorities, water authorities, water companies)
- between researchers and policy-makers

Concluding remarks on FOOTSTEP

- Making FOOTPRINT live beyond the EC funding is a challenge and not many consortia take this route
- If you believe in what we're trying to do, we do need your support
  - Both institutionally speaking
  - Both financially speaking
- If you are interested in using FOOTPRINT and/or benefiting from optimised risk assessment and management tools (country, catchment, farm), please let us know

FOOTPRINT

Current tools and future tools



Strengths of the FOOT tools

- Coherence between the various scales
- Takes into account the diversity in agro-environmental conditions
- Relies on state-of-the-art research models
- Not research tools, but tools adapted to their users
- Coverage of all Member States
- The provision of default data
- Own soil data can be fed in
- The approach is generic and can be easily replicated for any country/region
- Integrates validated approach and methodologies
- Provision of robust environmental indicators which integrate interactions between climate, soil, cropping and pesticide properties
- Possibility to do what-if scenarios

Potential weaknesses of the FOOT tools

- Had to implement some simplifying assumptions
- Climatic zonation rather crude
- Does not do
  - seed treatments
  - the effect of stone content
  - non-ploughing
  - rice
  - crop rotation explicitly
  - multiple applications in a short period
  - complex metabolic schemes
- Rely on first tier ecotox data
- Rather crude on application dates
- Lack of validation status at this stage
- May not go far enough in terms of recommendations
- Still considered complex for use

New improved tools

FOOTSTEP SP

- SP = Specific
- Development of new tools
  - based on an approach similar to FOOTPRINT (pre-modelling)
  - Integrating detailed information on soils, climate, cropping compounds
- Examples
  - For a country
  - For a region
  - For a catchment
  - For groups of farmers
  - For a crop

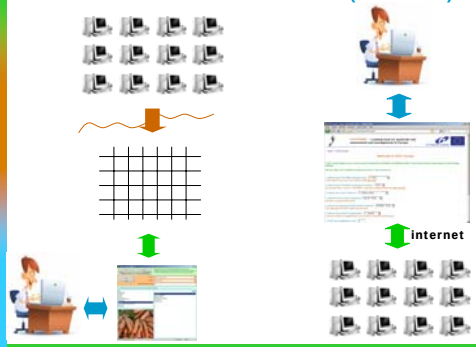
FOOTSTEP PRO

- Designed to address all shortcomings of the FOOTPRINT tools
- Principle
  - Web interface where you can specify
    - which climate(s) / soil(s) / crop(s) you want to run
    - which pesticide properties (including nf, Q10, degradation)
  - The data are sent to a super-computer
    - which automatically parameterises MACRO and PRZM
    - which does the running
    - postprocesses all the modelling runs
  - The results are fed back to the user
- Advantages
  - Quick (supercomputer which only does the necessary runs)
  - Completely flexible (input - e.g. geographical interface - and output – e.g. statistics, graphs, exceedances of set thresholds)
  - Provides access to detailed predictions
  - Best available science
  - Available through the web
- To be actively developed by FOOTSTEP in the coming months

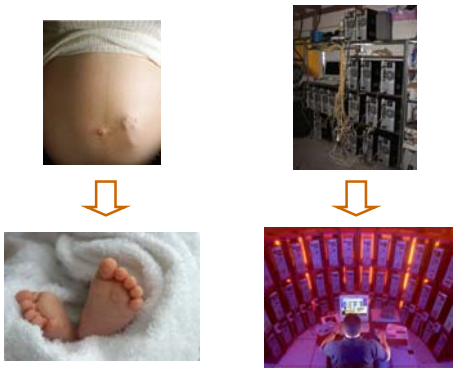
Current and improved tools

Pre-modelling (FOOTPRINT)

Real-time modelling (FOOTSTEP)



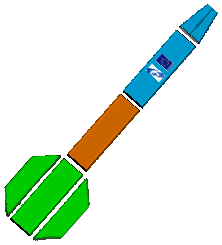
Where are we?



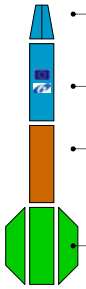
SIXTH FRAMEWORK PROGRAMME

So what about applications?

The FOOTPRINT rocket



Our rocket, like any rocket, has separate parts



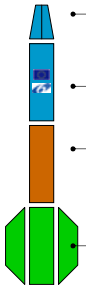
Third stage and rocket cap
Highly technical, contains all the important matters. The best available science.

Second stage
A bit of tech, most parts specific to the mission

First stage
A bit of tech, but not specific to the mission, dropped in the end

Boosters
Useful for initial thrust, mainly basic fuel, low tech, dropped quickly.

The FOOTPRINT rocket



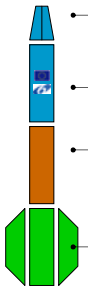
FOOTSTEP PRO
Real-time modelling which allows the best risk assessements to be done

FOOTSTEP SP(ecific)
Improved versions of the FOOTPRINT tools taking into account better resolved data

FOOT-FS, FOOT-CRS & FOOT-NES
The three tools developed within the course of the EU FOOTPRINT project

FOOTPRINT PPDB / FSTs & FPCs / FOOTPRINT SUGAR
Individual components of FOOTPRINT which can be (are!) used in isolation

Risk evaluation & flexibility



- **You just cannot do any better from a scientific / risk assessment point of view**
  Complete flexibility
- **Simplified despite taking best available data into account**
  Not very flexible
- **Simplified**
  Not very flexible
- **Simplistic**

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Applications of the FOOTPRINT / FOOTSTEP tools

> Lots of potential applications

> Applications broken down in 5 categories
- Agriculture / Sustainable Use
- Water framework Directive
- Research
- Pesticide registration
- Other

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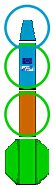
Agriculture and Sustainable Use

> Farm diagnostics
> Identification of problematic crops/fields and practices
> Implementation of risk reduction strategies
> Simple comparison of crop protection programmes
> Communication on sustainable use
> Detailed comparison of crop protection programmes
> Integration of FOOTPRINT technology into existing computerised tools or connection to databases
> Quantification of losses



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Water Framework Directive & risk assessments

> Action plans at the farm level
> Quick catchment assessment
> Identification of vulnerable zones
> Simple vulnerability assessments
> Contribution to the identification of priority substances and the setting of EQSs
> Optimisation of monitoring programmes
> Estimation of transfer times and contamination dynamics
> Linking between FOOTPRINT outputs and groundwater and/or surface water models

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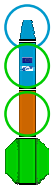
Research

> Simple lower tier assessments
> Comparison of outputs against field/monitoring data
> Detailed assessments (ecotox in particular)
> Detailed entries into surface water and groundwater systems



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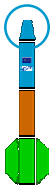
Pesticide registration

> Identify problematic zones
> National registration in Member States
> Adaptation to national conditions (climate, soils, crops, mitigation strategies)
> Access to non-extrapolated data (time series for leaching, drainage, runoff and erosion)
> Bespoke modelling: Freundlich sorption, aged sorption, Q10 value, metabolites



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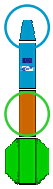
Other fields of application

> Education
> Awareness building
> Other contaminants



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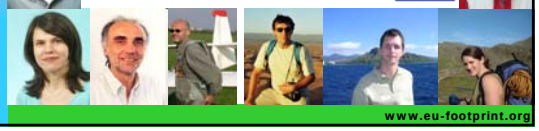
www.eu-footprint.org
contact@eu-footprint.org



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