

**ECOFOR – International Symposium**  
**How to both harvest and preserve forest more or better**  
**Paris, 26-30 May 2010**



**FOREST PROFITABILITY MEASUREMENT**  
**A pilot project to extend FADN to Italian**  
**forestry sector**

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# Outline

- > Background and project objectives
- > The new accounting software for agricultural enterprises - GAIA®
- > Methodology to input forest stands data
- > Accounting scheme for forestry assets

# Background



- > The timber sector has been experiencing a marginal economic role in Italy
  - 95% of forests are in hilly and mountain regions (LDAs)
  - 60% are private forests, but the average size is 3 ha/firm!
- > The decline of timber market value ( $\sim 30 \text{ €/m}^3$ ) has emphasized such marginality



Scarce interest of timber producer organizations to collect data on sector performance

# Background

Agenda 2000 → EU finance forestry sector

12-14% of  
EU-RD budget

Forest related policies designed for:

- Forestry and Agro-forestry Farms
- Logging enterprises

Regional administrations  
→ increasing demand for economical data  
over the forestry sector

National Institute for Agricultural Economics  
(INEA) and Italian National Rural Network  
(FADN)

→ **policy impact evaluation tools**

**Forestry  
FADN  
project**

# Objectives of Forestry FADN project

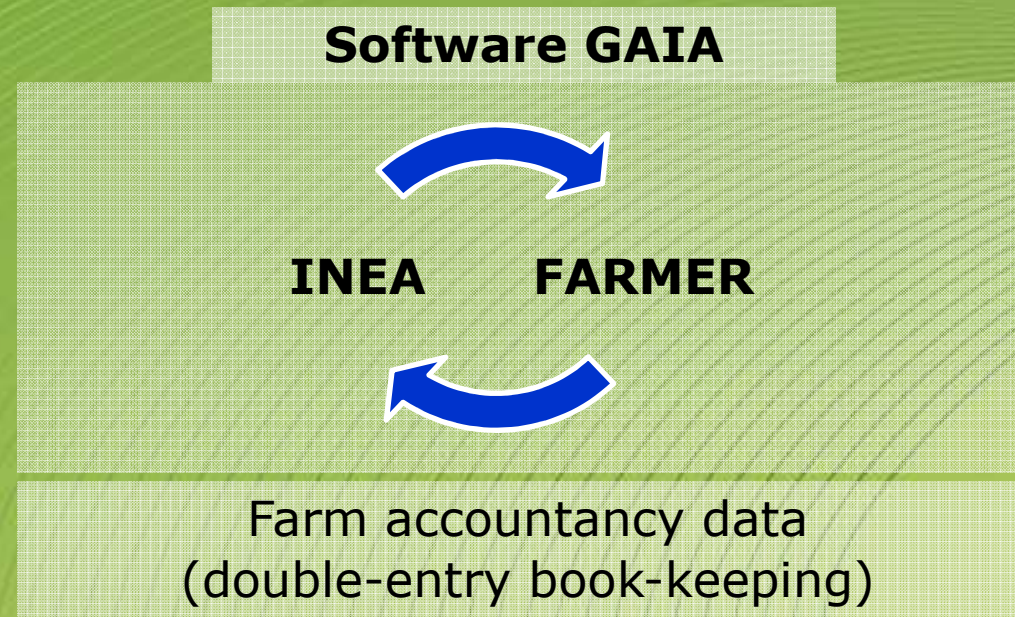


- > To extend FADN survey over forestry owners and logging enterprises → Pilot survey in Veneto Region
- > Propose a way to harmonize the multi-annual forestry production with the annual agricultural one
- > **Output** → upgrade the accounting software GAIA<sup>®</sup> used for farm data collection by INEA

# GAIA development and implementation



FADN data collection is organized and managed by INEA (since 1968)



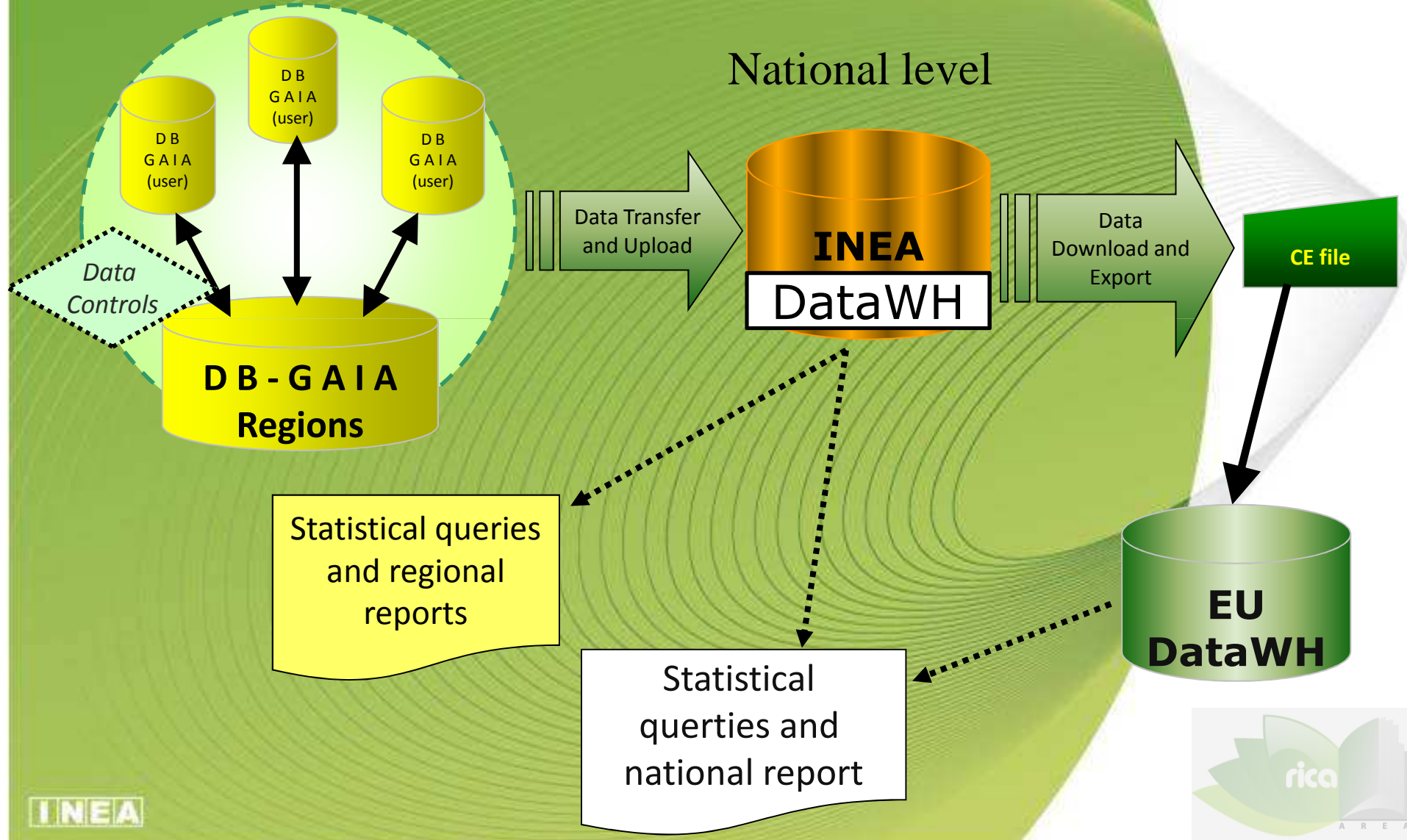
## GAIA's strengths

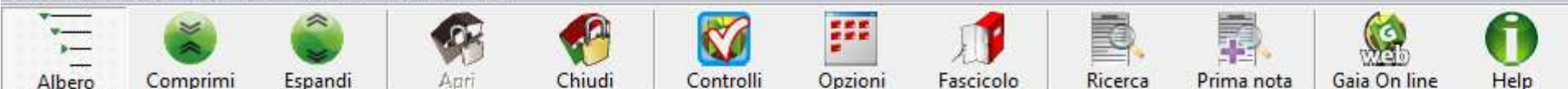
- Combination of technical information with assets management
- Calculation of financial ratios and economic indicators
- Farm efficiency and economic analysis

# Data management in GAIA®

Regional level

National level





Cerca ...

Contesto aziendale

Inventario e anagrafiche

- Appezziamenti e tare
  - Fabbricati e manufatti
  - Macchine e attrezzi di campo
  - Attrezzature dei centri aziendali
  - ▶ Piantagioni
    - Piantagioni agricole
    - Piantagioni forestali
  - ▶ Allevamenti
    - Animali da vita
    - Animali giovani e da ingrasso
    - Razze prevalenti
  - ▶ Magazzini
    - Prodotti delle colture
    - Prodotti degli allevamenti
    - Prodotti trasformati delle colture
    - Prodotti trasformati degli allevamenti
    - Mezzi tecnici extra-aziendali
  - ▶ Certificazioni
    - Colture
    - Animali
    - Prodotti agricoli
    - Azienda nel complesso
  - Imprenditore e nucleo familiare
  - Dipendenti e collaboratori
  - Quote e diritti immateriali
  - Crediti
  - ▶ Debiti
    - Debiti di finanziamento
    - Debiti di funzionamento
  - Cassa e conto corrente
  - Anticipazioni colturali e altre componenti
  - Ricavi e costi esercizi precedenti
- Gestione tecnica  
 Movimenti contabili (prima nota)  
 Operazioni di fine esercizio
- ▶ Rinarizzazione di costi ai processi

**Piantagioni forestali**

Anagrafica | **Dati generali**

Centro aziendale. . . me temporaneo Gruppo. . . . . Bosco

Tipologia. . . . . bosco di conifere Piantagione. . . . . abete bianco - bosco

Uso energetico. . .  Anno impianto. . . 1900

Nome / descrizione. . . Abete bianco - bosco - 1900

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Superficie (Ha,aa). . 300,00 Sistema irrigazione. . Assente

Sup irrigata (Ha,aa). . 0,00 Approvv idrico. . .

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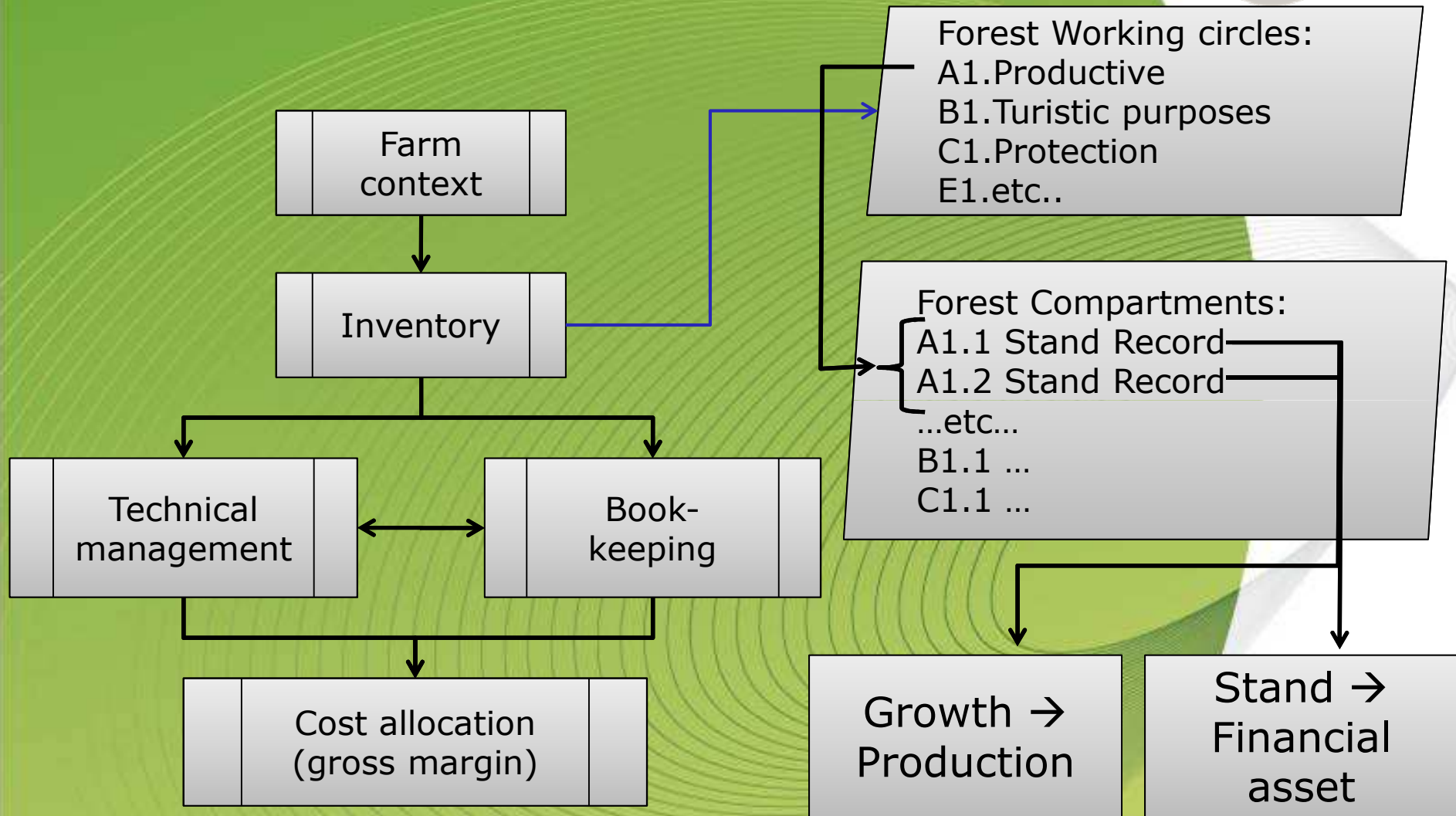
Piantagione	SAU	Irrigata	Impianto	Stato	Possesso
Boschi misti di conifere - 1900	300	0	1900	In fase di impianto	Proprietà
Larice - bosco - 1900	100	0	1900	In fase di impianto	Proprietà
<b>Abete bianco - bosco - 1900</b>	<b>300</b>	<b>0</b>	<b>1900</b>	<b>In fase di impianto</b>	<b>Proprietà</b>
Bosco misto di latifoglie - 1900	3000	0	1900	In fase di impianto	Proprietà

Visualizzazione

Report Nuovo Modifica Cancella Esci



# Forest property recording method



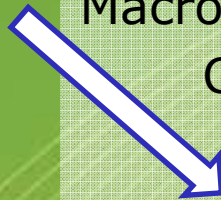
# Accounting scheme



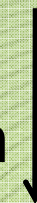
Macro-category → woodland (productive)

Category → working circle (cost center) → Gross Margin

Sub-category → compartments → stand records



Input for  
calculation



> BORCHERS *et. al.* (2002)

## Forest inventory

→ value of timber-stocks calculated differentiated according to species and diameter-classes

→ value of the opening stock at the beginning of the year

+ sales revenues – harvesting costs

→ net value of exploited timber

+/- difference between net value of exploited timber and calculated net value of the annual increment

→ value of the closing stock at the end of the year



# Open issues

We want share our proposals and get suggestion from other European experiences

## Questions

- > Which evaluation method for (productive) growing stock is the most suitable, considering the project objective?
- > When and how NWFPs (marketable) or forest ecosystem services "production" (not marketable) influences the gross margin?



**Thank you for your attention**



[www.gaia.inea.it](http://www.gaia.inea.it)

**INEA**



# Accounting scheme for forestry asset (productive forest)



## 1.1 Productive Stand:

Vol. 10,000 m<sup>3</sup>  
Incr.% 1.5% year  
Value: 10 €/m<sup>3</sup>

Growth:  
150 m<sup>3</sup>

Production:  
• 1,500 €

1.1 - (1/01):  
• 100,000 €



Sales (trees)  
100 m<sup>3</sup>  
50 €/m<sup>3</sup>  
Production:  
• 5,000€  
• 1,000€  
• 4,000€

P&L:  
5,500€  
1.1 - 31/12:  
100,500€  
Cash - 31/12:  
5,000€

