Olympe and game simulation

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  - Interactive Strategic Management (ISM)
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- Interface with Olympe
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Interactive Strategic Management (ISM):

Today fewer or no general solutions, so:

- Interactive Strategic Management has been developed to support the farmers in their new role in an uncertain environment.
- The entrepreneur as pivot
  - Initiative and responsibility with entrepreneur
  - Advisor facilitates (process-guidance)
- In interaction with environment
  - Dialogue with stakeholders
- Sustainability integrated in whole strategy
  - balance between People, Planet and Profit

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Interactive Strategic Management (2)

- Focus on drive and competences of farmer
- Start with mission and strategy of farmer
- From general strategy to improvement plans
  - Know where you are: SWOT
  - Develop general strategy with Game Simulation
  - Improving indicators within strategic framework
    - For farmers individual indicators are no goal itself
  - Make improvement plans fitting with general strategy

Game Simulation

- Farmer's own data
- *Farmer runs program*
  - Chooses management measures
  - Makes management measures concrete
  - Looks at the results (technical, financial, environmental)
  - Adapts management measures
  - Compares packages
  - Chooses best plan
  - Gets printed version of best plan

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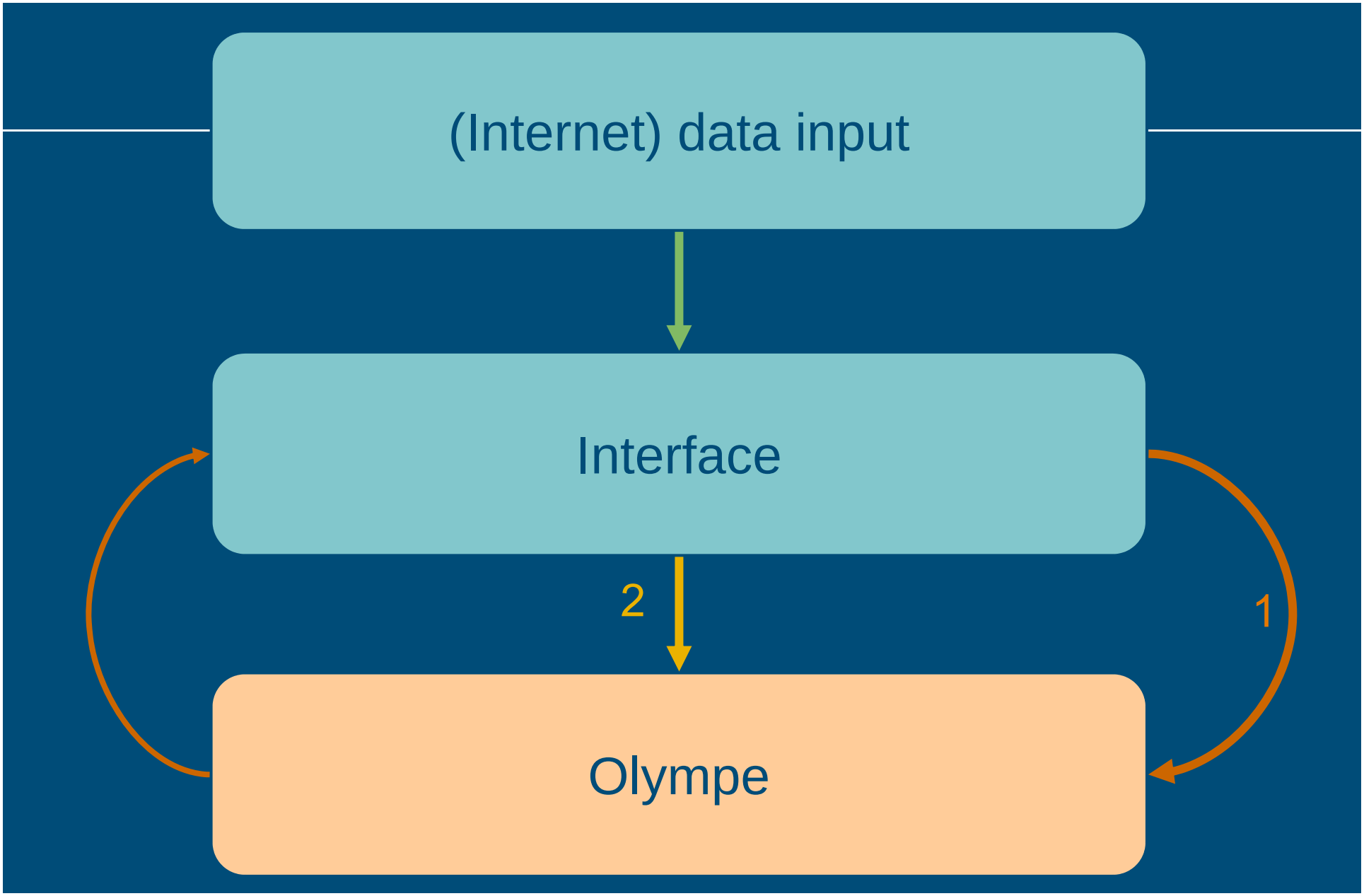

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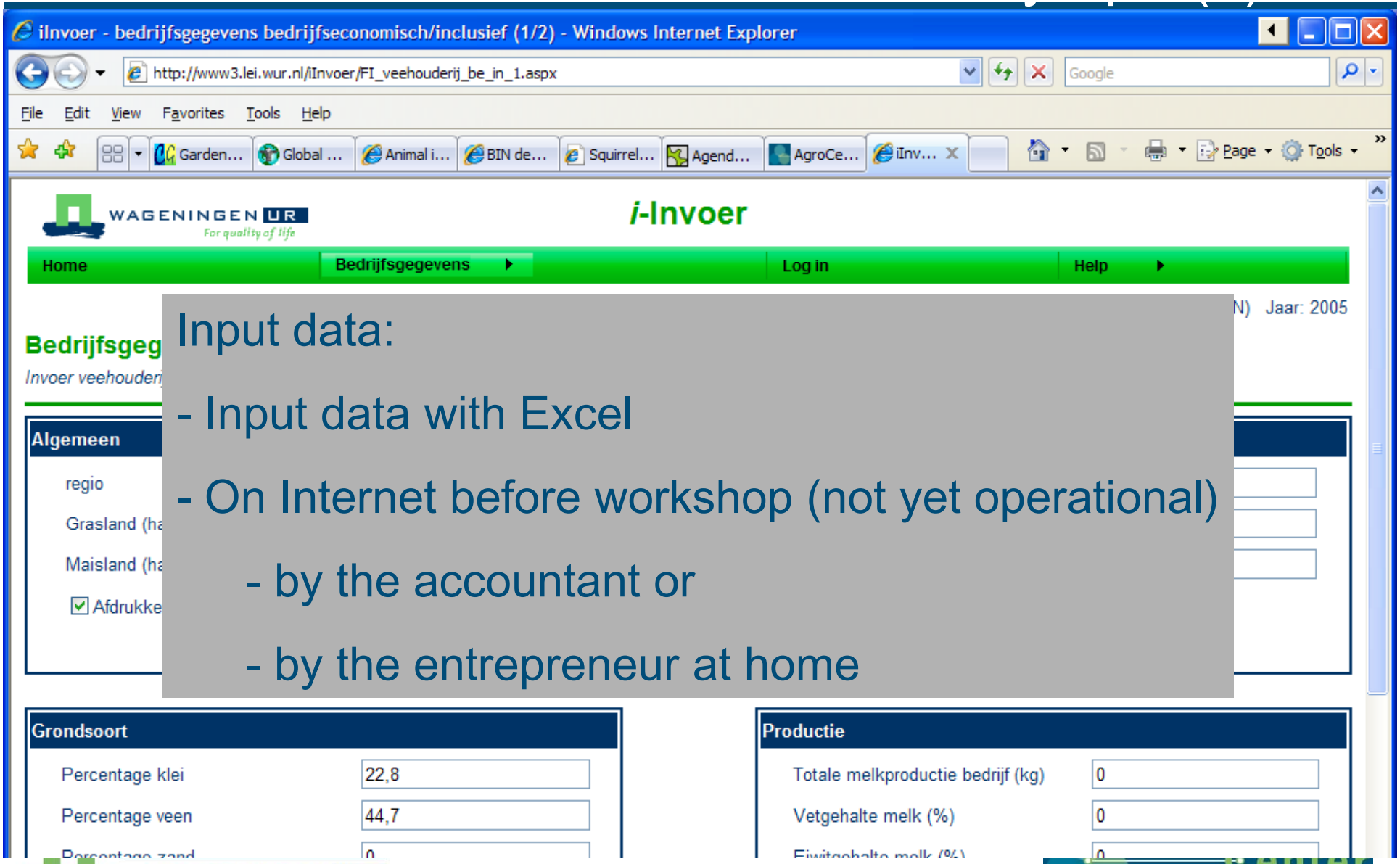
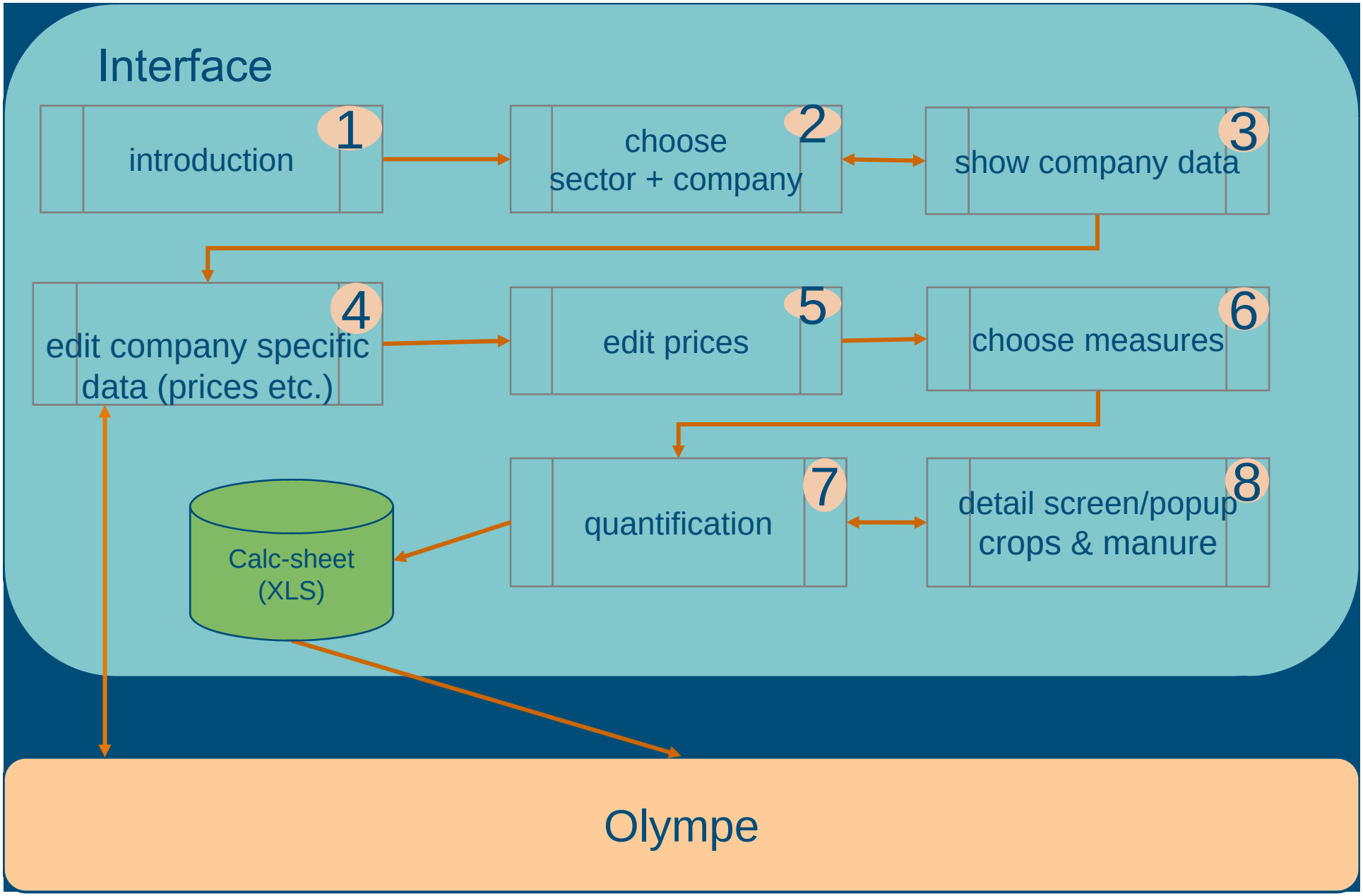
Game Simulation: Interface and Olympe (1)



Input data:

- Input data with Excel
- On Internet before workshop (not yet operational)
  - by the accountant or
  - by the entrepreneur at home



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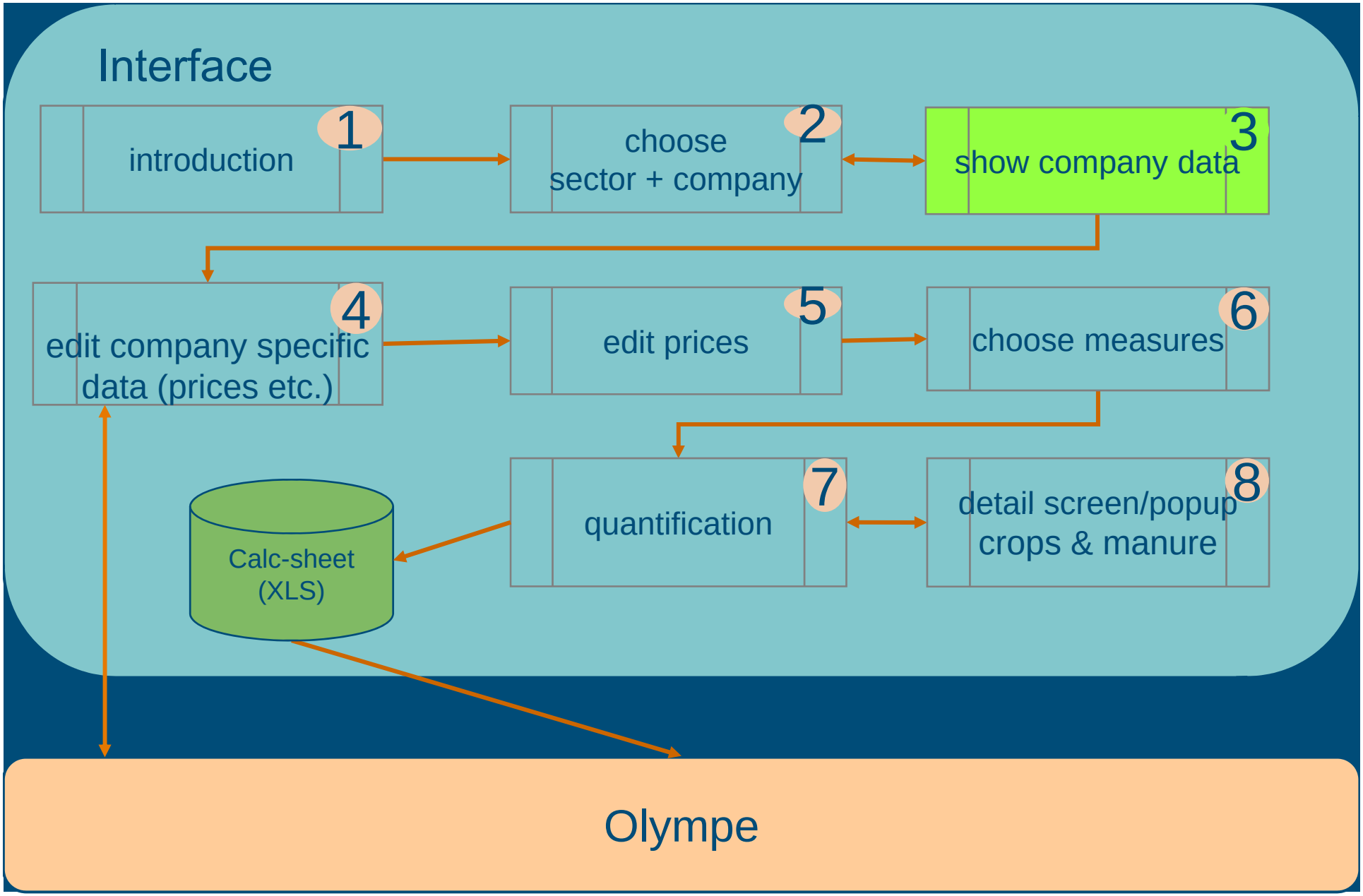

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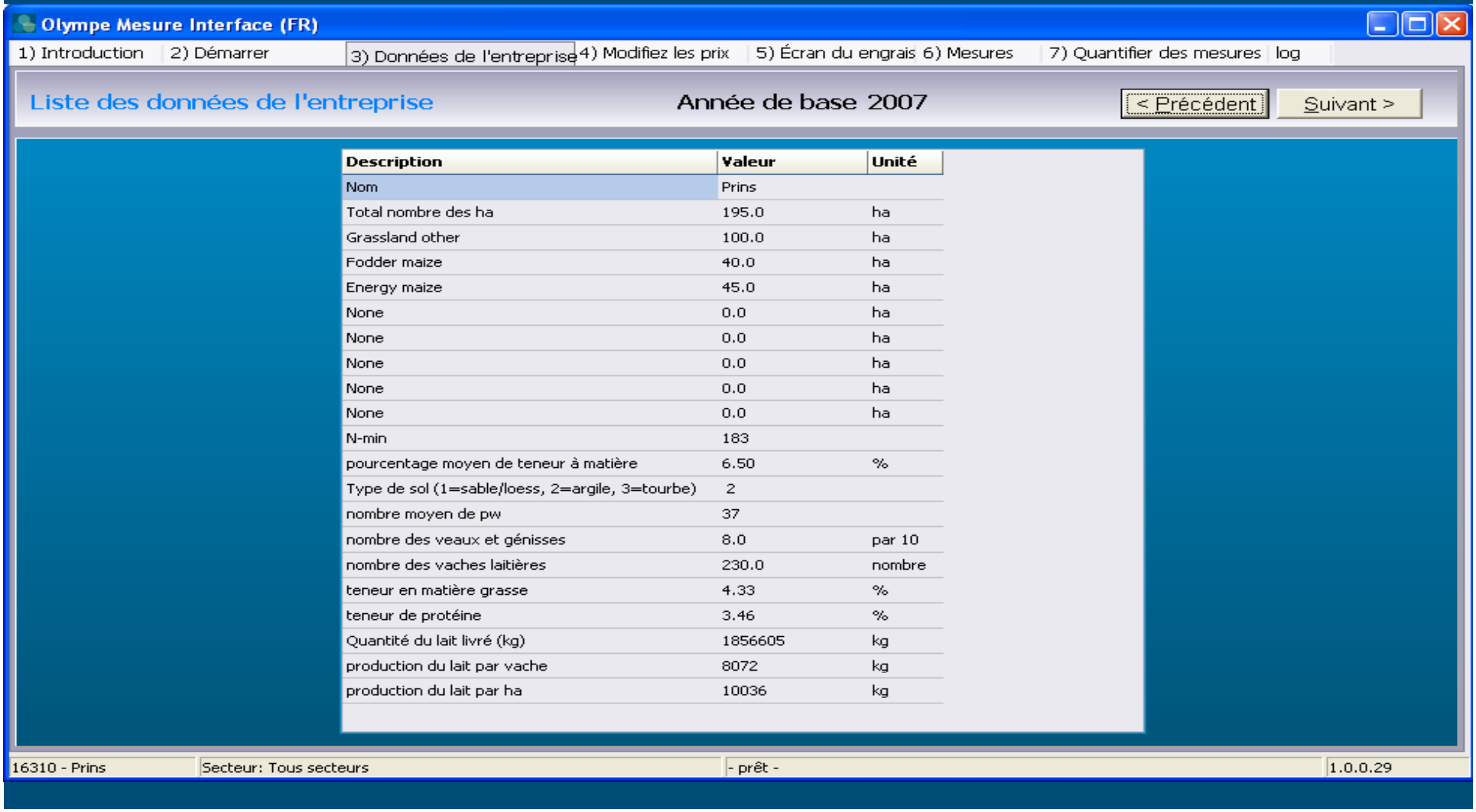
Game Simulation: Interface and Olympe (2)



Description	Valeur	Unité
Nom	Prins	
Total nombre des ha	195.0	ha
Grassland other	100.0	ha
Fodder maize	40.0	ha
Energy maize	45.0	ha
None	0.0	ha
None	0.0	ha
None	0.0	ha
None	0.0	ha
None	0.0	ha
N-min	183	
pourcentage moyen de teneur à matière	6.50	%
Type de sol (1=sable/loess, 2=argile, 3=tourbe)	2	
nombre moyen de pw	37	
nombre des veaux et génisses	8.0	par 10
nombre des vaches laitières	230.0	nombre
teneur en matière grasse	4.33	%
teneur de protéine	3.46	%
Quantité du lait livré (kg)	1856605	kg
production du lait par vache	8072	kg
production du lait par ha	10036	kg

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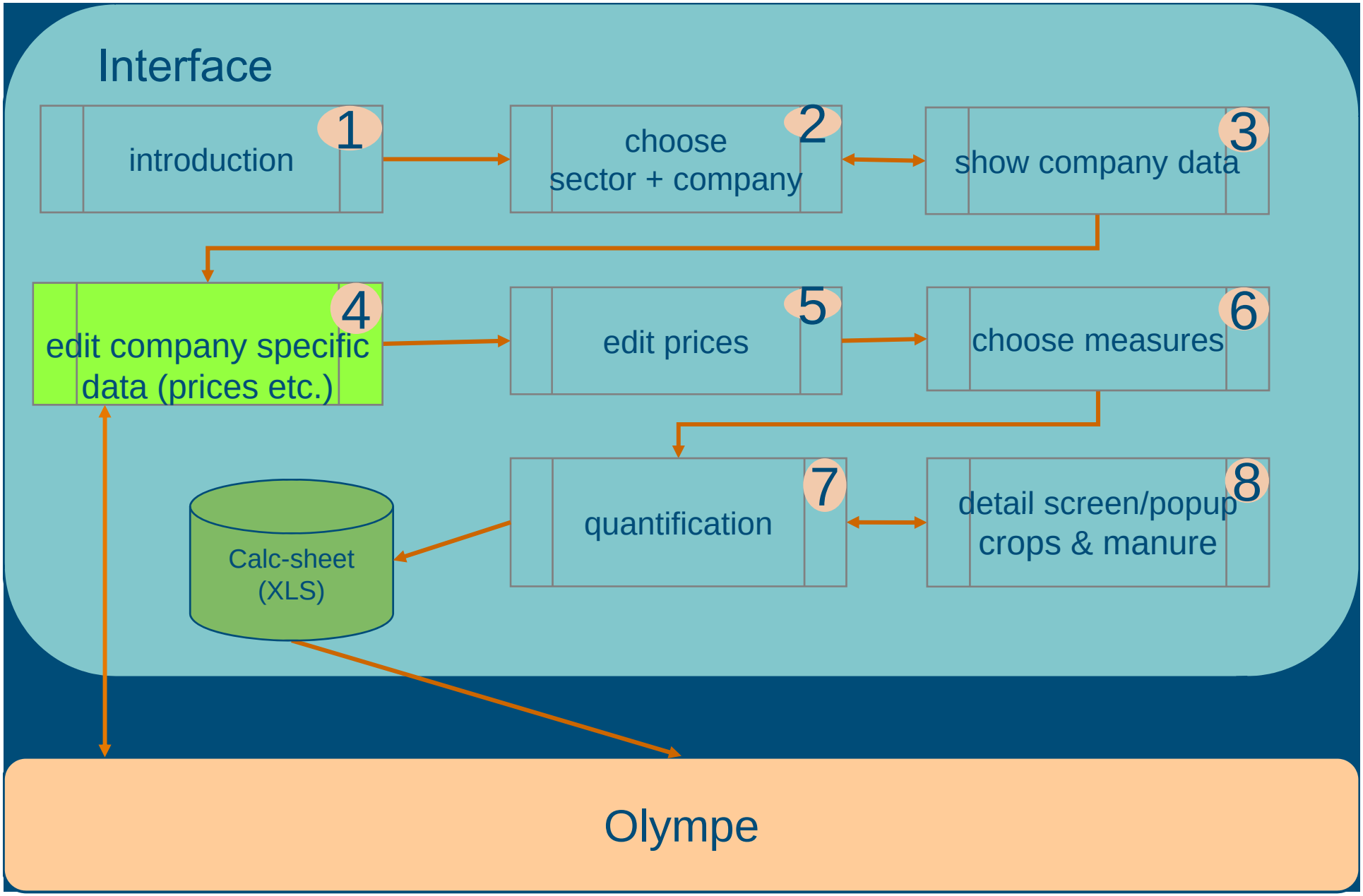

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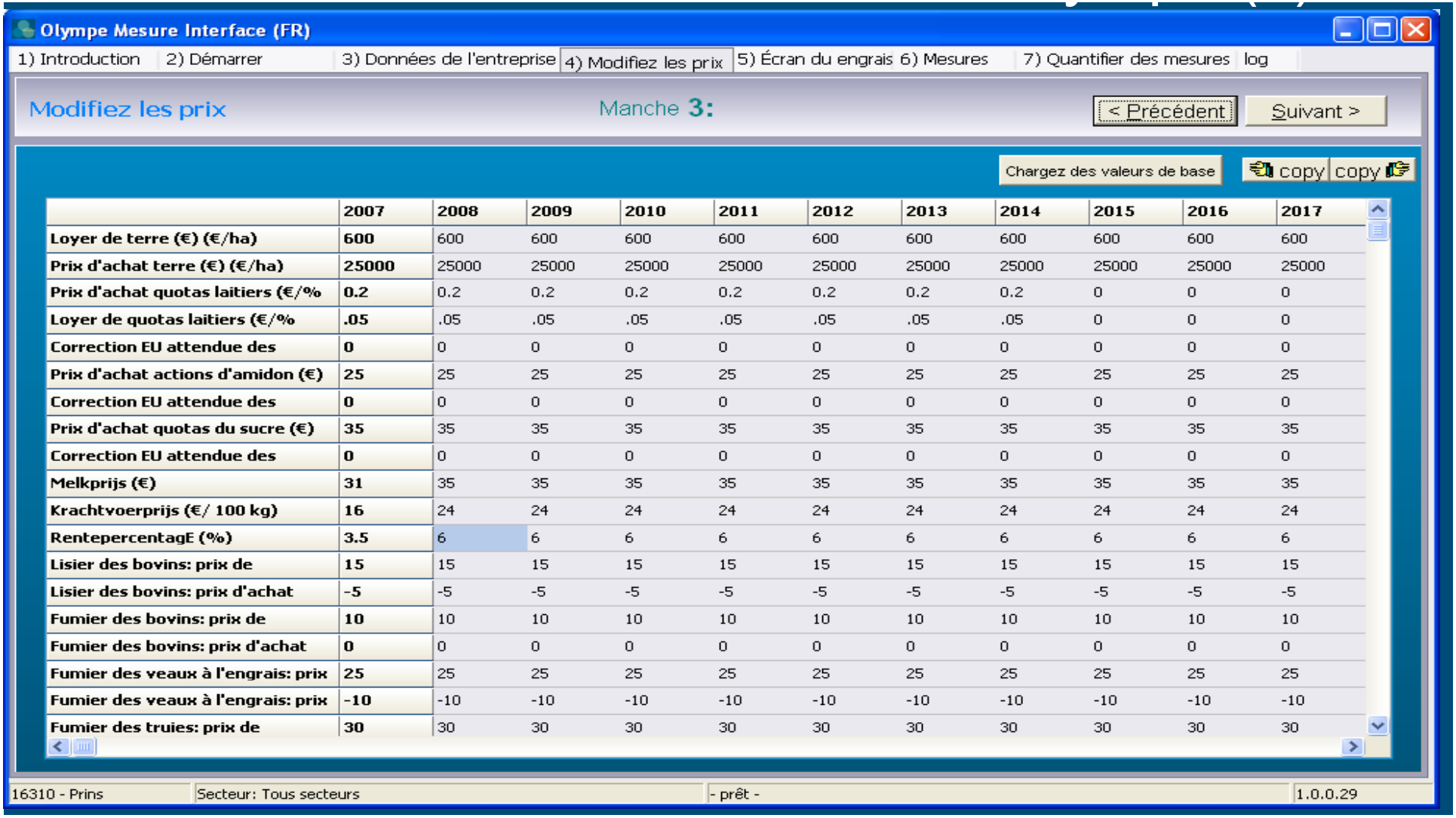
Game Simulation: Interface and Olympe (3)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Loyer de terre (€) (€/ha)	600	600	600	600	600	600	600	600	600	600	600
Prix d'achat terre (€) (€/ha)	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000
Prix d'achat quotas laitiers (€/%	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0	0
Loyer de quotas laitiers (€/%	.05	.05	.05	.05	.05	.05	.05	.05	0	0	0
Correction EU attendue des	0	0	0	0	0	0	0	0	0	0	0
Prix d'achat actions d'amidon (€)	25	25	25	25	25	25	25	25	25	25	25
Correction EU attendue des	0	0	0	0	0	0	0	0	0	0	0
Prix d'achat quotas du sucre (€)	35	35	35	35	35	35	35	35	35	35	35
Correction EU attendue des	0	0	0	0	0	0	0	0	0	0	0
Melkprijs (€)	31	35	35	35	35	35	35	35	35	35	35
Krachtvoerprijs (€/ 100 kg)	16	24	24	24	24	24	24	24	24	24	24
RentepercentagE (%)	3.5	6	6	6	6	6	6	6	6	6	6
Lisier des bovins: prix de	15	15	15	15	15	15	15	15	15	15	15
Lisier des bovins: prix d'achat	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
Fumier des bovins: prix de	10	10	10	10	10	10	10	10	10	10	10
Fumier des bovins: prix d'achat	0	0	0	0	0	0	0	0	0	0	0
Fumier des veaux à l'engrais: prix	25	25	25	25	25	25	25	25	25	25	25
Fumier des veaux à l'engrais: prix	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10
Fumier des truies: prix de	30	30	30	30	30	30	30	30	30	30	30

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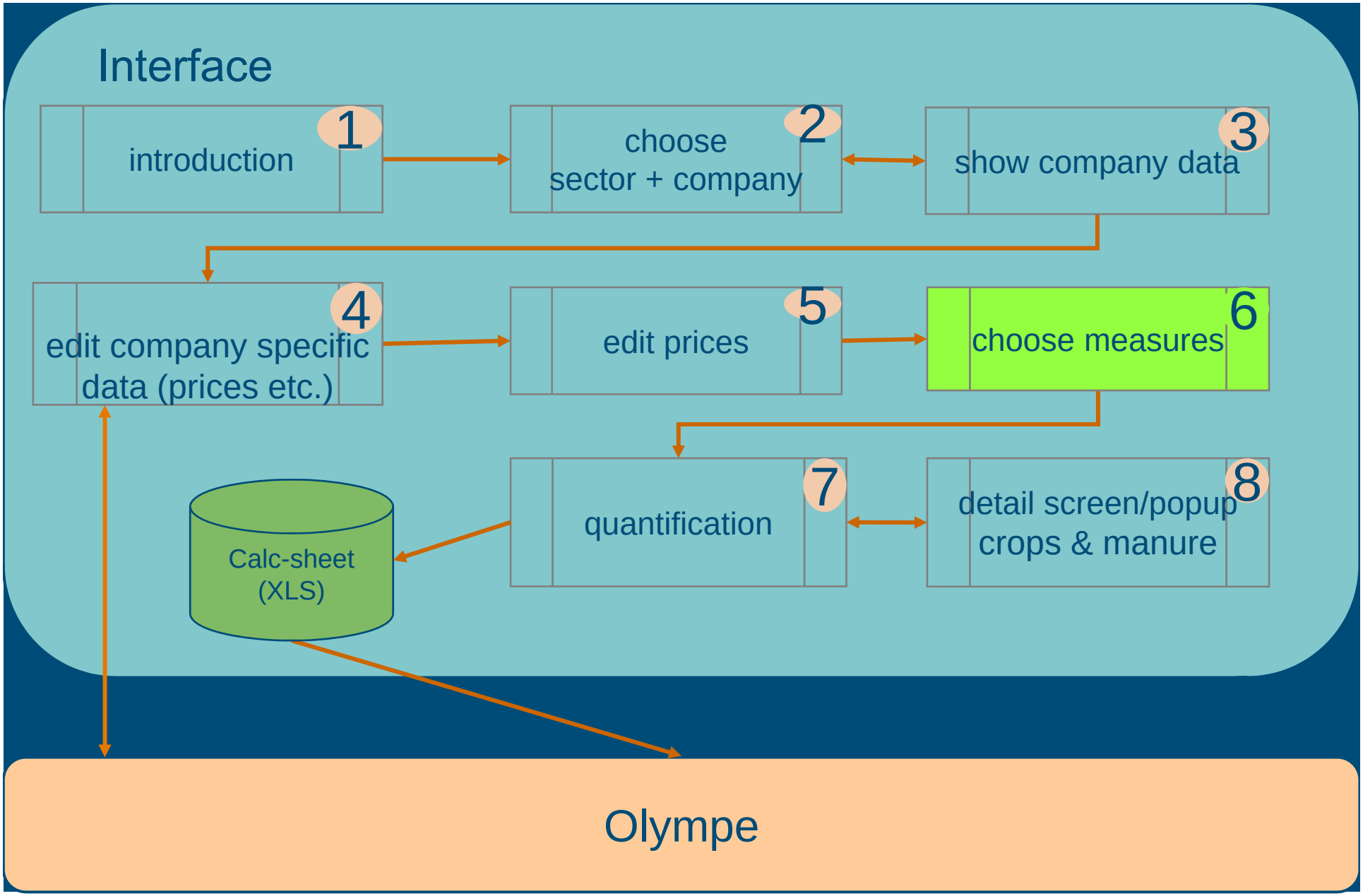

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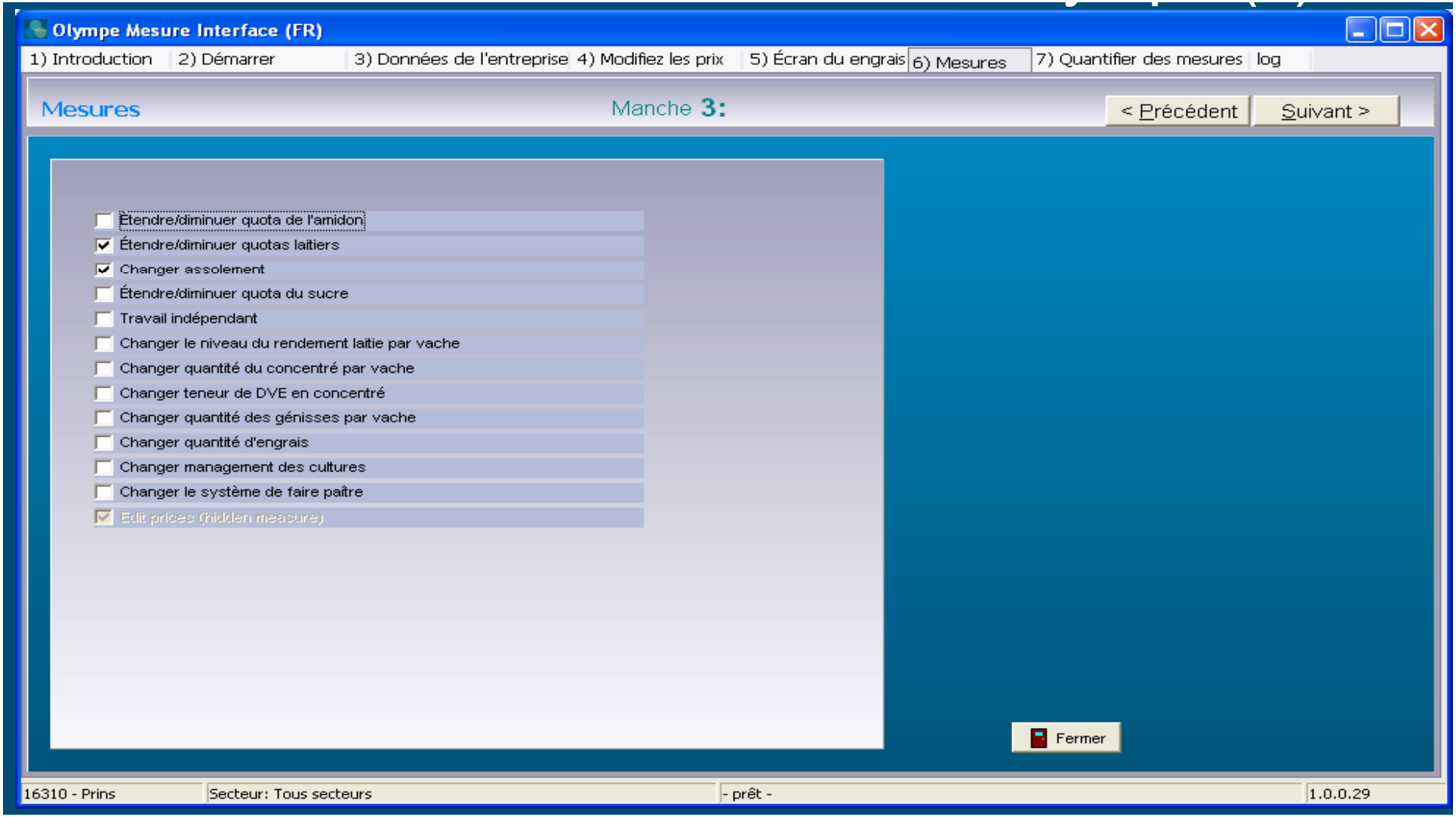
Game Simulation: Interface and Olympe (4)



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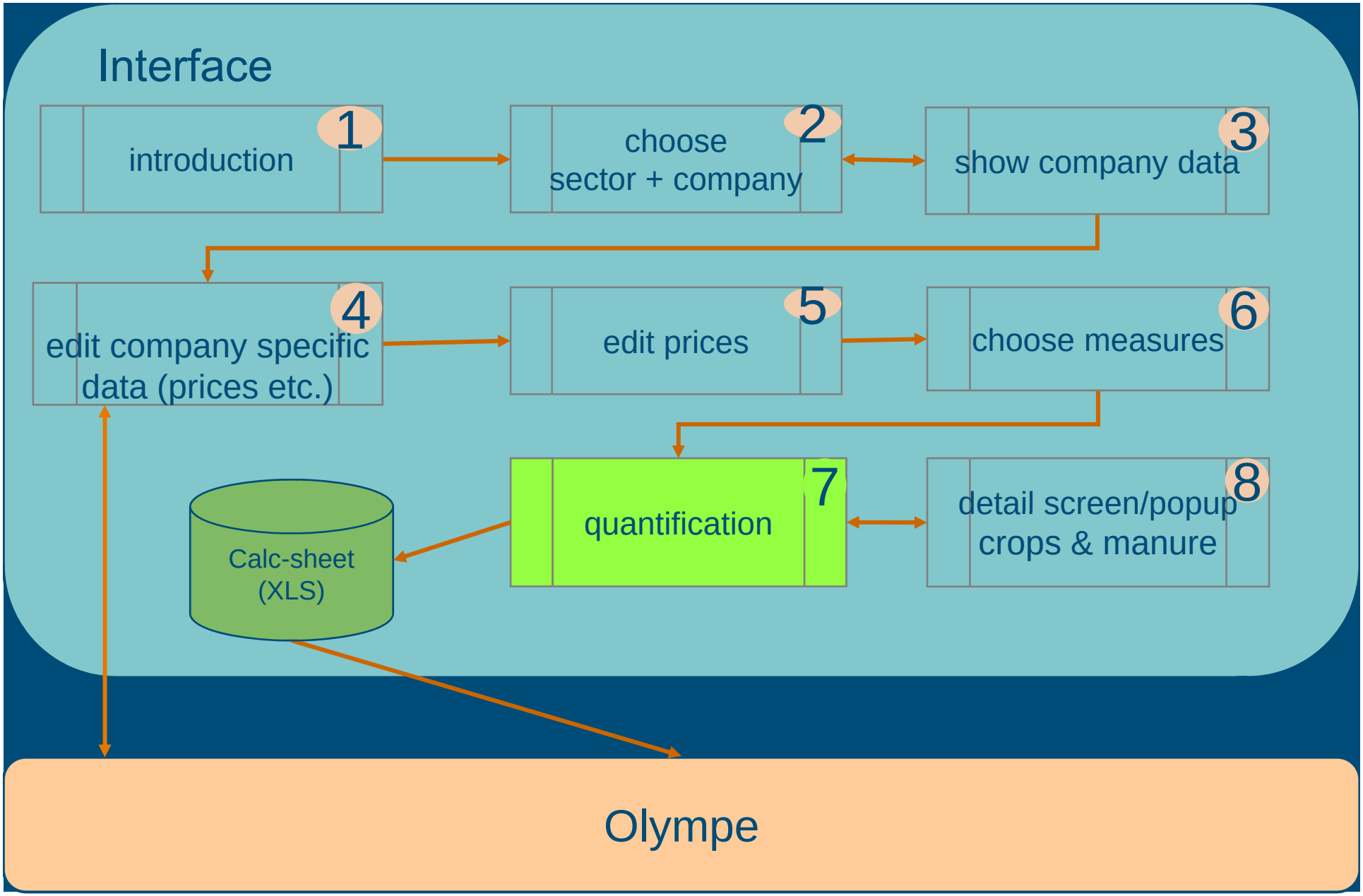

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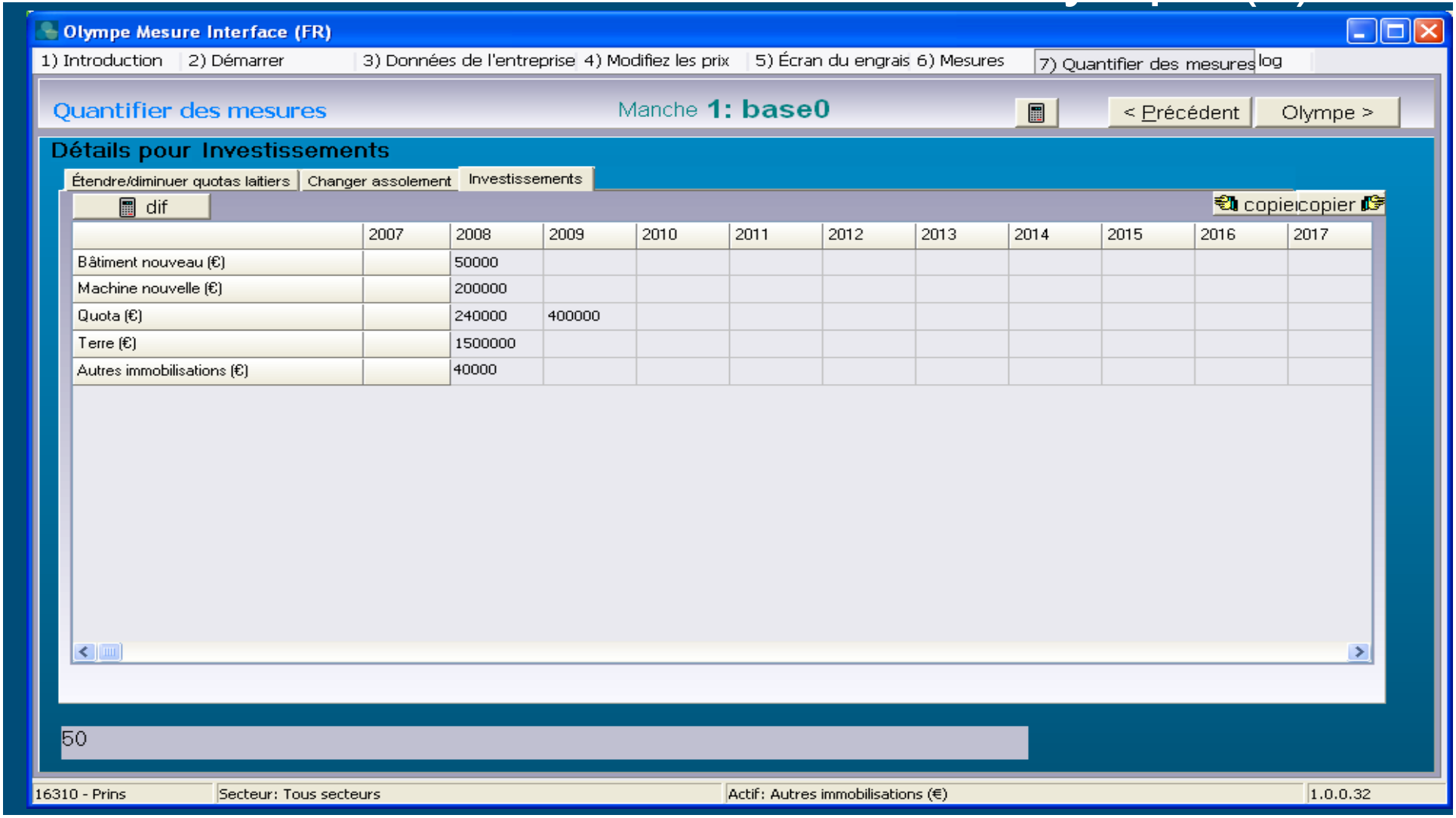
Game Simulation: Interface and Olympe (5)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Bâtiment nouveau (€)		50000									
Machine nouvelle (€)		200000									
Quota (€)		240000	400000								
Terre (€)		1500000									
Autres immobilisations (€)		40000									

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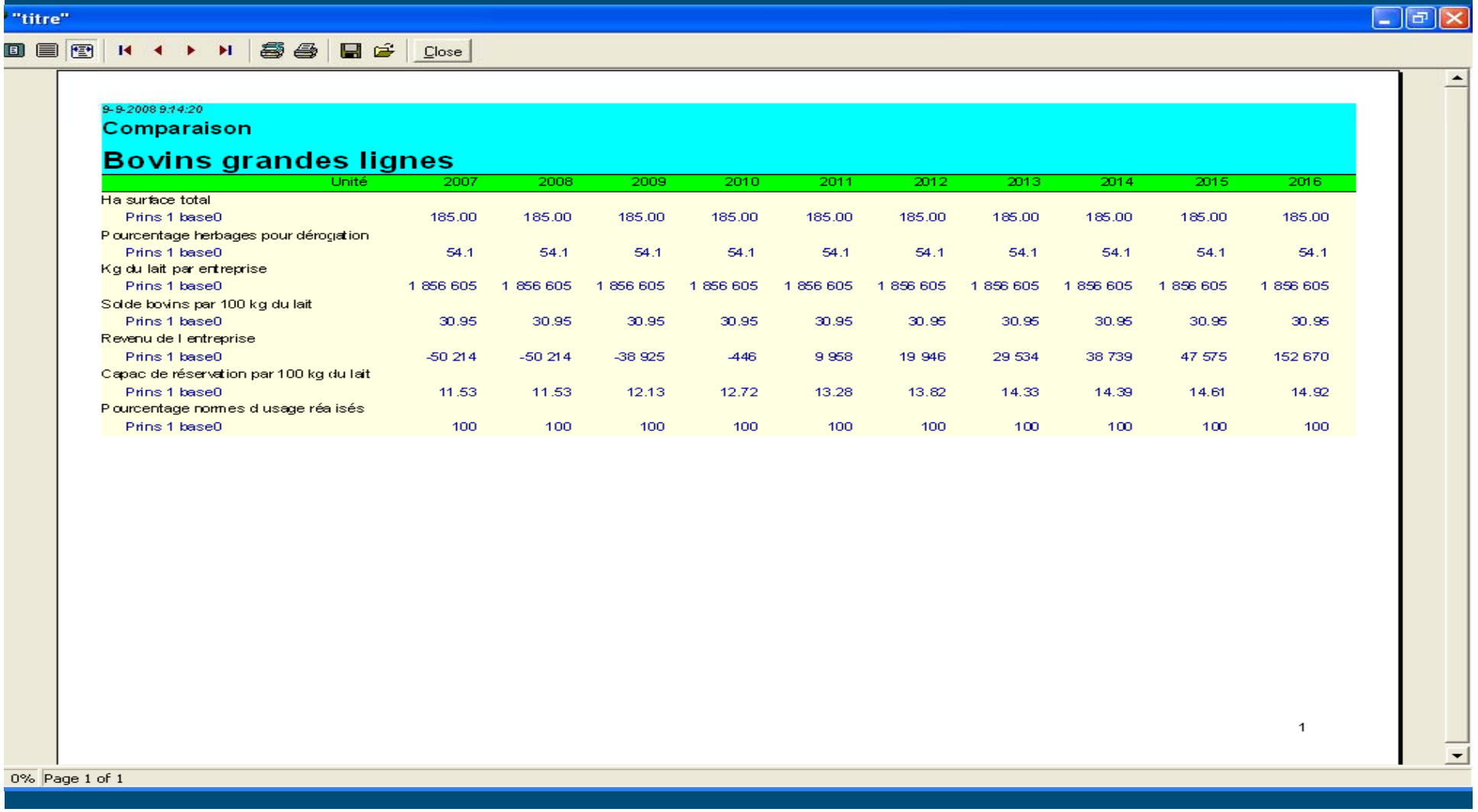
Game Simulation: Interface and Olympe (6)

- Calculations to convert input data, whether or not affected by measures, to data for Olympe
  - Calculations partly in Excel, partly in Olympe (growing)
    - Interface reads data from Excel-input-workbook
    - Interface places input data together with measure values into Excel-calculation-workbook
    - Excel-calculation-workbook contains output-sheet: Interface converts this sheet into csv-file for Olympe
  - Interface starts Olympe
  - Olympe reads from csv-file
- Intention to phase out Excel-calculation

Output Olympe



	Unité	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Ha surface total											
Prins 1 base0		185.00	185.00	185.00	185.00	185.00	185.00	185.00	185.00	185.00	185.00
Pourcentage herbages pour dérogation											
Prins 1 base0		54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1
Kg du lait par entreprise											
Prins 1 base0		1 856 605	1 856 605	1 856 605	1 856 605	1 856 605	1 856 605	1 856 605	1 856 605	1 856 605	1 856 605
Solde bovins par 100 kg du lait											
Prins 1 base0		30.95	30.95	30.95	30.95	30.95	30.95	30.95	30.95	30.95	30.95
Revenu de l entreprise											
Prins 1 base0		-50 214	-50 214	-38 925	-446	9 958	19 946	29 534	38 739	47 575	152 670
Capac de réservation par 100 kg du lait											
Prins 1 base0		11.53	11.53	12.13	12.72	13.28	13.82	14.33	14.39	14.61	14.92
Pourcentage normes d usage réa isés											
Prins 1 base0		100	100	100	100	100	100	100	100	100	100

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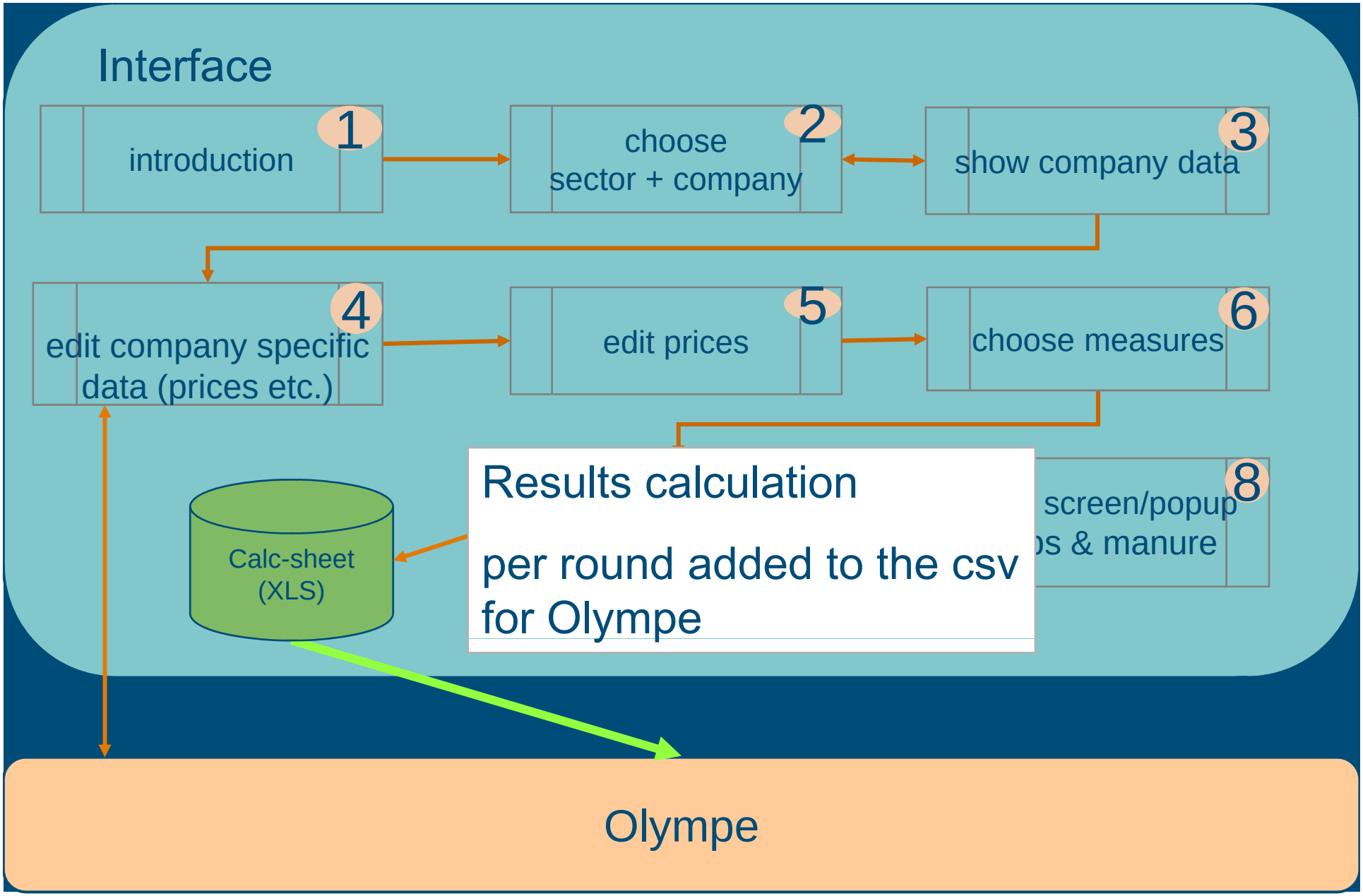
Game Simulation: Interface and Olympe (7)

- More rounds
  - Close Olympe
  - Change prices (sensitivity analysis) and/or
  - Choose other measure(s) and/or
  - Change quantifications
  - Start Olympe
  - Compare within Olympe
    - Different rounds in graphs
    - Create own ‘comparison’-output-screens



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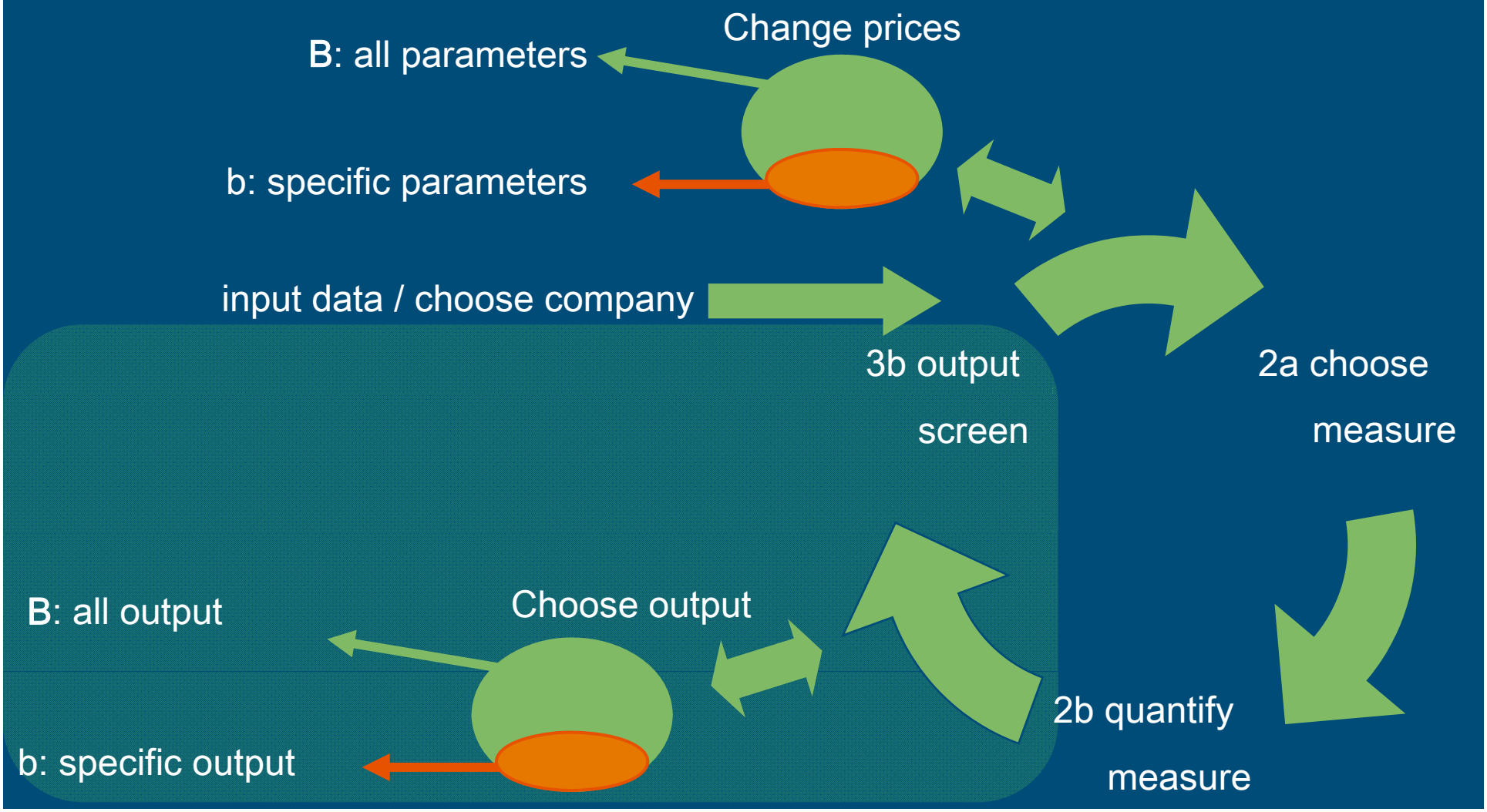
Demonstration

- Enterprise Prins Family
  - 5 entrepreneurs, 2 locations
  - Over 200 dairy cows and over 170 ha of land
  - Biogas installation to produce gas from manure of both locations and other products (energy maize e.o.): the gas is converted into electricity
  - 3 milking robots and automatic feeding system on 1 location in 2007; 2 milking robots and automatic feeding system on second location in 2008
  - Growth to 330 dairy cows and about 240 ha land
- A few scenarios: start Game simulation

Concerning the Olympe-part

- Our point of view, supported by a few experiences
  - Concept is unique: comparison of scenarios
  - Graphs are preferred above tables: tables are useful background information if a graph is unclear
  - It takes rather many clicks to navigate between graphs mutually and between graphs and tables (inexperienced in some way?)

Game simulation cycle



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Concerning the cooperation between Interface, Excel and Olympe

- It still takes too much time until results of a round can be shown
- Translation is not yet completed
- Wish to phase out Excel:
  - Olympe must do (the large majority of) the calculations
    - Example: increasing the amount of concentrates per cow means higher milk production per cow → within quota system this means less cows. Now Excel delivers the new number: can Olympe take over this job within our setup?
  - Interface should be the manager

Applications in the Netherlands

- Use by students
  - Individual use: students get task to support a farmer in the formation of his strategy
- Workshop organic dairy farmers
  - Centralized use: a few farms are treated as cases
    - Facilitator runs program and people can participate
    - Some plans have been formulated and calculated before.
- Some pictures

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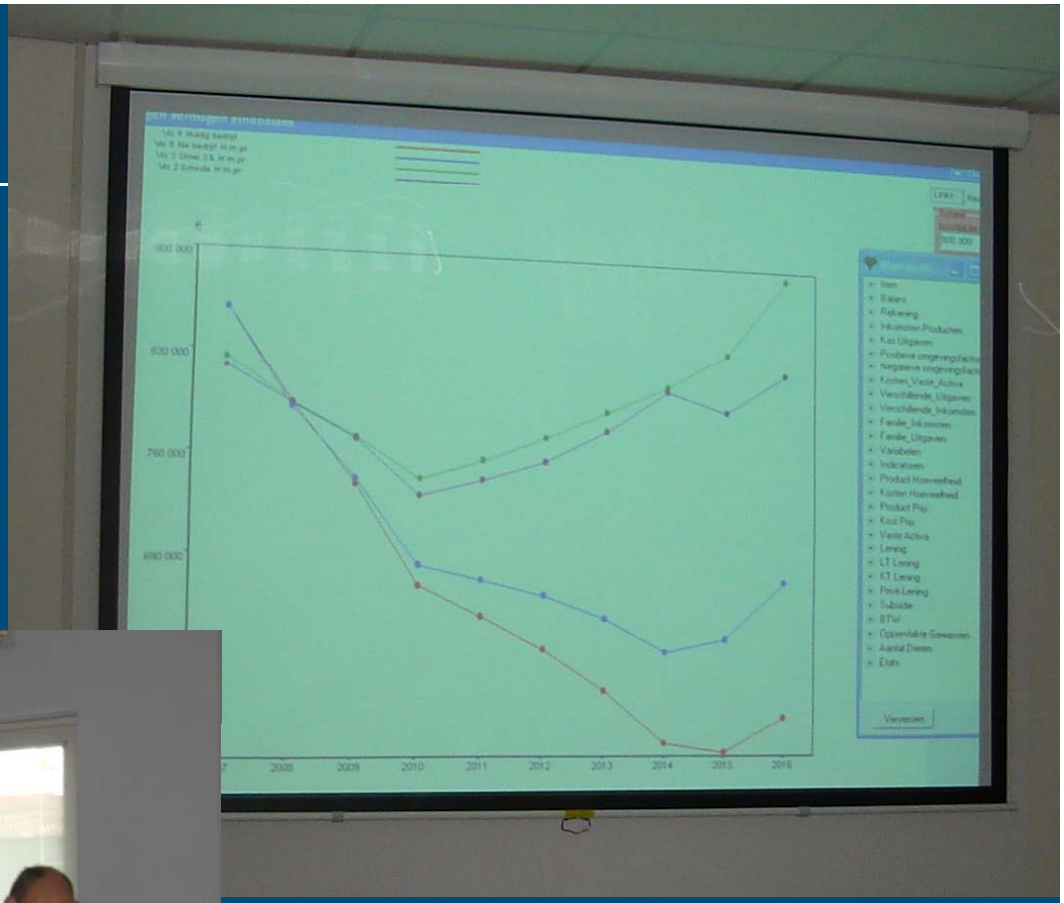

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Finally the end-user in a group…

- 8-15 farmers run the game simulation
  - Individually
  - But together in a group
  - During working with their own farm breaks for group discussions
- Farmers can sharpen themselves
- Useful for policy preparation: policy makers can see how farmers will react on new policy
- Very useful in a region setup: aggregation!
  - Biogas: 15 arable farmers and 15 dairy farmers

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ISM-cycle setup

- 1. Formulating mission/strategies
- 2. Investigating the strategies: Game simulation
- 3. Strategy that best fits: more detailed calculation:
  - Specific financing (postponing redemption, special interest rates)
  - more specified tax calculations
  - Budgeting liquidity
  - Can be done by Olympe stand-alone with best strategy as input
- 4. Monthly comparison of achieved results and budgets: per month and cumulative
- Do these steps again and again (different frequencies)

Game Simulation: Interface and Olympe (8)

- To be done:
  - Translation: oly-file in English, only final tables and graphs in specific language
  - Region or country specific calculation(s)(rules)
  - (simple) method for calculation of fixed costs
  - Transfer of calculations from Excel-calculation-workbook to Olympe as much as possible
  - Simplification of use

Further developments

- Integration of tools
  - Benchmarking (Face-It) and game simulation (Olympe) under one interface (ISM)
- Tools more independent of agricultural sector
- Change tools to internet tools
- Community of development

A challenging job to do

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More information

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  Dutch: www.lei.wur.nl/NL/onderzoek/Expertise/Agrocenter

- Co Daatselaar: co.daatselaar@wur.nl / +31 (0)320 293 544
  - Olympe, Stars, GSD (concerning content), ISM
- Niels Tomson: niels.tomson@wur.nl / +31 (0)320 293539
  - Tools general (technical), ISM, Olympe interface

- Other tools we use:
  - Strategic Management Report: Personal report that guides the entrepreneur through the ISM process.
  - Strategic Management Tool: calculates competences, internal and external factors through strategies.
  - Face-IT: Face-IT is a bench-mark tool. Farm results are compared with results of a group of farms. The farmer can use the comparison to trace strengths of his farm management or to establish were there is room for improvement.

  - www3.lei.wur.nl/LEI_WebTools/ (on this moment only Dutch)

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