

EARTO Paper on Horizon Europe's Internal Invoices Scheme

21 February 2020

EARTO and its members are fully committed to be actively involved in the process to prepare Horizon Europe's implementation. As input to the discussions on Horizon Europe Model Grant Agreement (MGA), EARTO made a detailed note on Horizon Europe's internal invoices scheme. EARTO members hereby offer their support and insights to the European Institutions to enable an efficient implementation of such scheme, with the aim to better reflect the real costs of beneficiaries based on their usual cost accounting practices (UCAP). In that context, the methodology used for Horizon Europe Internal Invoices' scheme needs to remain flexible enough to adapt to the future evolution of RD&I activities, including for instance regarding digitalisation.

1. The internal invoicing scheme should enable a wider acceptance of the usual cost accounting practices of EU FPs' beneficiaries

The usual cost accounting practices of an organisation are based on continuity and consistency in its cost accounting system. They aim to ensure, for example, that the costs of their RD&I activities are calculated in a consistent way in all the organisation's processes, using the same allocation keys. EARTO very much welcomes the EU Institutions' ambition for a wider acceptance of the usual cost accounting practices of the beneficiaries in Horizon Europe, especially for unit costs via the internal invoices scheme.

The [EU Financial Regulation](#) (Art. 125, 181 and 186) states that union contributions may take the form of unit costs, which "*cover all or certain specific categories of eligible costs*", and which can be determined following "*a beneficiary-to-beneficiary approach, by reference to certified or auditable historical data of the beneficiary, or to its usual cost accounting practices*".

This is also foreseen in Horizon Europe's Regulation:

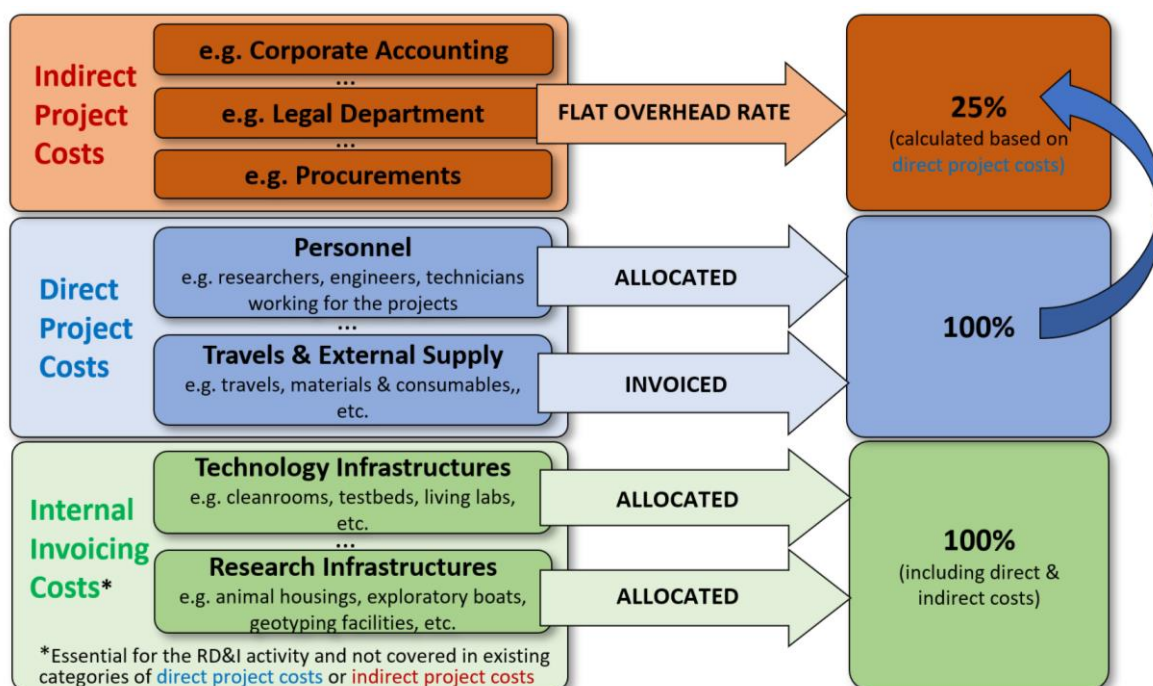
- [Horizon Europe's Regulation](#) Recital 47: "*the Programme should provide the basis for a wider acceptance of the usual cost accounting practices of the beneficiaries as regards personnel costs and unit costs for internally invoiced goods and services (including for large research infrastructures as understood under Horizon 2020).*"
- [Horizon Europe's Regulation](#) Article 31: "*Where appropriate, indirect costs included in unit costs or lump sums shall be calculated using the flat rate set out in paragraph 1, except for unit costs for internally invoiced goods and services which shall be calculated on the basis of actual costs, in accordance with the beneficiaries' usual costs accounting practice*".

2. The Horizon Europe internal invoicing scheme should cover the real costs of research and technology infrastructures

The rules of the Horizon Europe's internal invoices scheme need to enable, in particular, to cover the real costs for research and technology infrastructures, in line with beneficiaries' usual cost accounting practices. Today, research and technology infrastructures, both physical and virtual (digital), are the backbone of EU cross-border collaborative research & innovation. Such infrastructures can be of many different types and sizes, their use in projects therefore generates different types of costs. Besides, as these infrastructures are often used in several projects at the same time, such costs are quite impossible to allocate without allocation keys and relevant cost drivers. Cost allocation mechanisms are therefore essential.

Drawing from the returns on experiences with the Large Research Infrastructures (LRI) scheme and the Internal Invoicing scheme in H2020, the European Commission is now preparing one single scheme for Horizon Europe to allocate the real costs of all kinds of infrastructures to projects. Further developing the internal invoicing scheme by broadening the acceptance of unit costs calculated via allocation keys would be an efficient simplification measure in Horizon Europe. Such allocation keys are part of the usual cost accounting practices of research organisations like RTOs, and are already accepted at national/regional level.

Figure 1: Three different types of costs in Horizon Europe's projects: direct costs, indirect costs, and internal invoices' costs (source: EARTO)



Taking this into account, Figure 1 shows the three different types of costs that can be distinguished in Horizon Europe's projects: direct costs, indirect costs and internal invoices costs.

- **Direct project costs, as in H2020, financed at 100%**, including project personnel costs, but also supply costs (materials and consumables, travels, depreciation of project equipment, publication fees, open access fees, project website, CFS etc.).
- **Indirect projects costs financed through a flat 25% overhead rate** calculated based on the total direct project costs, as in H2020. These costs are by nature indirect, and include corporate accounting, legal department, procurement, corporate/basic IT, etc.
- **Internal invoices' costs which cover direct and indirect research and technology infrastructures' costs, essential for the RD&I activity. These costs will be funded 100% but are not taken into account for the calculation of the 25% flat rate for indirect costs.** Combining the methodologies to cover infrastructure costs in a broader Internal Invoices' scheme in Horizon Europe is now necessary to increase simplification. This pool of research and technology infrastructure costs indeed requires the use of unit costs and allocation mechanisms to be attributed to projects.

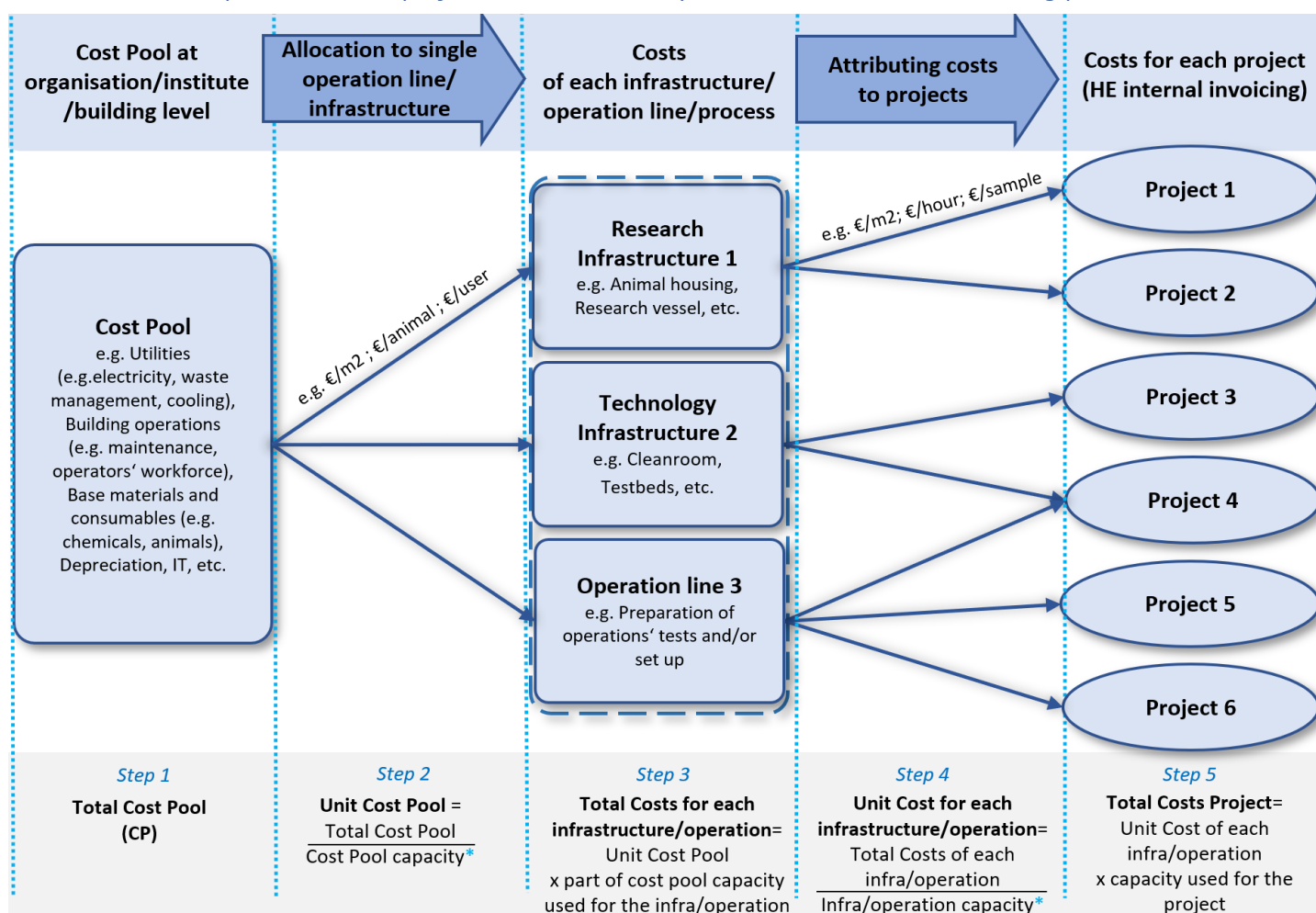
3. An efficient implementation of the Horizon Europe's Internal Invoices scheme should enable the smooth allocation of costs to projects based on the usual cost accounting practices of the beneficiary

Research and technology infrastructure are necessary for the RD&I activity and their costs will not be covered in the 25% flat overhead rate in Horizon Europe. It is therefore essential for the RD&I activity to allocate or assign these costs to each project via the internal invoicing scheme, using relevant allocation keys in line with beneficiaries usual cost accounting practices.

- [Horizon Europe's Regulation](#) Recital 47: "The use of unit costs for internally invoiced goods and services calculated in accordance with the usual accounting practices of the beneficiaries **combining actual direct costs and indirect costs** should be an option which could be chosen by all beneficiaries. In this respect, beneficiaries should be able to include actual indirect costs calculated on the basis of allocation keys in such unit costs for internally invoiced goods and services."

This can be implemented through a flexible process as shown in [Figure 2](#), using Horizon Europe's internal invoicing scheme (including via unit costs methodology), in line with the usual cost accounting practices of research organisations.

Figure 2: Implementation of the Horizon Europe internal invoicing scheme: process to allocate a pool of costs to projects via allocation keys based on usual cost accounting practices



*Capacity can be based on actual data or average based on historical data

e.g. number of m2; number of working hours per day/week/month based on general collective agreement; number of units produced in the past year, average number of animals in the past year, number of users, number of batches/samples/lotturns/waferstepturns

Such process, always based on the usual cost accounting practices, can be broken down as follows:

- **Step 1: The different types of costs of infrastructures, operations and other processes are accumulated in a cost pool at the level of an organisation or institute** (e.g. utilities, building operations, base materials and consumables, etc.).
- **Step 2: Unit costs are then defined at the level of the cost pool, taking into account all the costs to be attributed to the different infrastructures/operations/processes.** These units can contain all the different elements of costs (e.g. utilities, personnel, materials, etc.).
- **Step 3: The actual use of the cost pool is then assigned to each related infrastructures, operations and other processes** (e.g. cleanroom, animal housing, preparation of operations' tests, etc.). This is done by allocating the specific part of the cost pool (units) used for each infrastructure/operation/ process, via relevant allocation keys (e.g. electricity+cooling costs for the whole building could be allocated to the different infrastructures within the building depending on the m2 surface these infrastructures occupy, with different space categories if relevant). Cost pools of products bought in bulk at the level of the organisation can also be directly allocated to projects via relevant allocation keys (see step 5 below).
- **Step 4: Unit costs are then defined for each infrastructure/operation/process, taking into account all direct and indirect costs of the infrastructure/operation/process.** These units can contain all the different elements of costs (e.g. utilities, personnel, etc.).
- **Step 5: Finally, depending on the use of these infrastructures/operations/processes, the cost of each specific infrastructure is then allocated to the related projects,** using the actual use of units (e.g. total costs of the infrastructure could be allocated to projects depending on the number of working hours that the infrastructure is used for the project).

4. The Horizon Europe Internal Invoices' scheme methodology needs to remain flexible and enable the calculation of unit costs for different applications in future

Unit cost calculations using allocation keys in a RD&I context are very similar amongst research organisations, and always follow their usual cost accounting practices. EARTO members hereby provide a limited and non-exhaustive sample of concrete examples of allocation keys schemes commonly used in their organisations to divert different types of costs from a cost pool to different research and technology infrastructures.

Table 1: Cost diversion to infrastructures, operations and other processes: some example

Type of costs*	Allocation keys (UCAP)	Registration
Utilities e.g. Electricity, Heating, Cooling, Water, Waste management, etc.	€/m2 priced by space category (space categories are used to allocate costs of buildings to spaces with different levels of consumption)	Annual energy invoices at building level in kWh/m2 for each space category. Historical actual data (average costs/energy consumption in past years)
Building/infrastructure operations e.g. Operators' workforce, Maintenance (incl. staff & consumables), Cost of the premises (rental costs), Cleaning, Security, Insurance, Certifications, Transport, etc.	€/m2 €/annual working hours of operators' staff/technicians employed for the operation and/or maintenance of the infrastructure	Work contracts or timesheets for maintenance and/or operators' staff/technicians employed for the infrastructure m2 used by infra (% space in the building used by infra)
Base materials (bought in bulk) & consumables e.g. Chemicals, Wafers, Bioanalysers, Autoloaders, Chips, Reagents, Animals, Animal nutrition, cages, Laboratory clothing, etc.	€/actual units used €/usage per amount of time €/animal	Logbooks (kg, L,) Registered units based on working phases (paper or digital) Historical actual data (average usage in past years)
Depreciation/amortisation e.g. of building, of infra itself, machines, equipment, etc.	€/m2 of infra in building €/ piece of equipment	Beneficiaries accounting system for depreciation Logbooks or alternative methods based on actual data
IT/Digital facilities e.g. Cybersecurity, Servers, Data storage & management, Open access, Software license, integration, etc.	€/Number of users €/Time used	IP connections Time

*Costs can be based on normal usage and actual data from the previous year, or on averages based on historical data, as well as simulations (e.g. costs to be assigned to new infrastructures could be based on the actual costs of for e.g. 3 months as a basis for the costs of the running year).

Once diverted from the cost pool to each infrastructure, the costs then need to be diverted to the different projects via unit costs and allocation keys (as shown in Figure 2). The table below provides a limited and non-exhaustive list of concrete examples of such allocation keys commonly used by research organisations to divert infrastructure costs to projects.

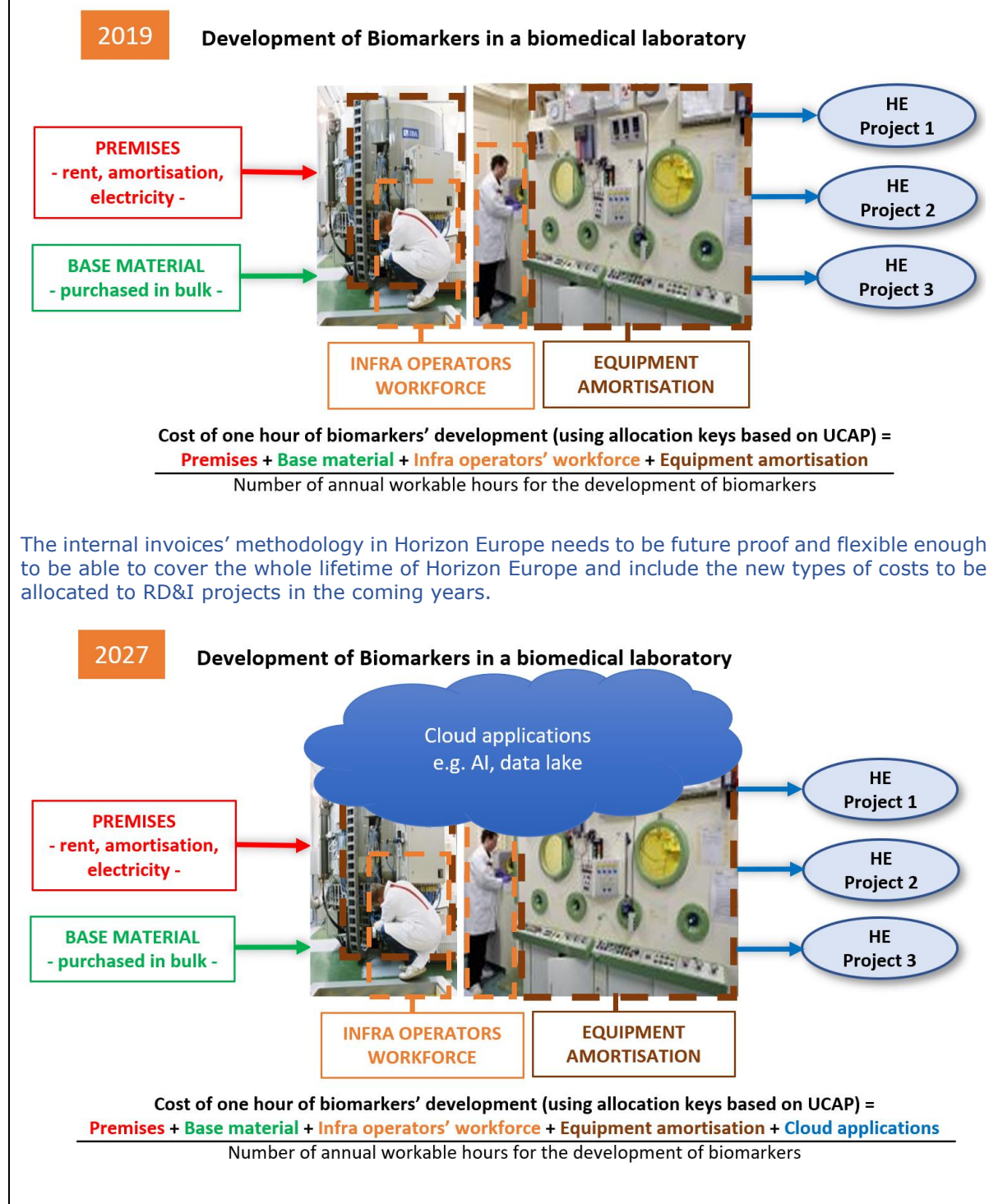
Table 2: Cost diversion from research and technology infrastructures and other business processes to projects: some examples

Allocation keys (UCAP)	Registration
€/actual or average usage of the infra in the project	Timesheets of project staff or hours using the facility (in working hours per day/week/month based on general collective agreements), Logbooks
€/time of use of machines/equipments, servers, softwares, etc.	ERP data (internal management software), logbooks, registers (paper or digital), etc.
€/number of batches/samples produced during project €/number of lotturns/waferstepturns used for the project	Logbooks, ERP data, internal softwares, etc.
€/consumables units used (materials, animals, etc.) for the project	Number of batches/sample/doses/animals produced or used, logbooks

The evolution of the type of costs included in the management of an infrastructure, especially with the rise of digitalised facilities and processes, needs to be taken into account when designing the internal invoices scheme. These methodologies need to remain flexible enough to adapt to the evolution of RD&I activities and research and technology infrastructures for the next 7+ years of the Horizon Europe programme. This will be essential for the EU to keep funding excellent RD&I using state-of-the-art research & technology infrastructures.

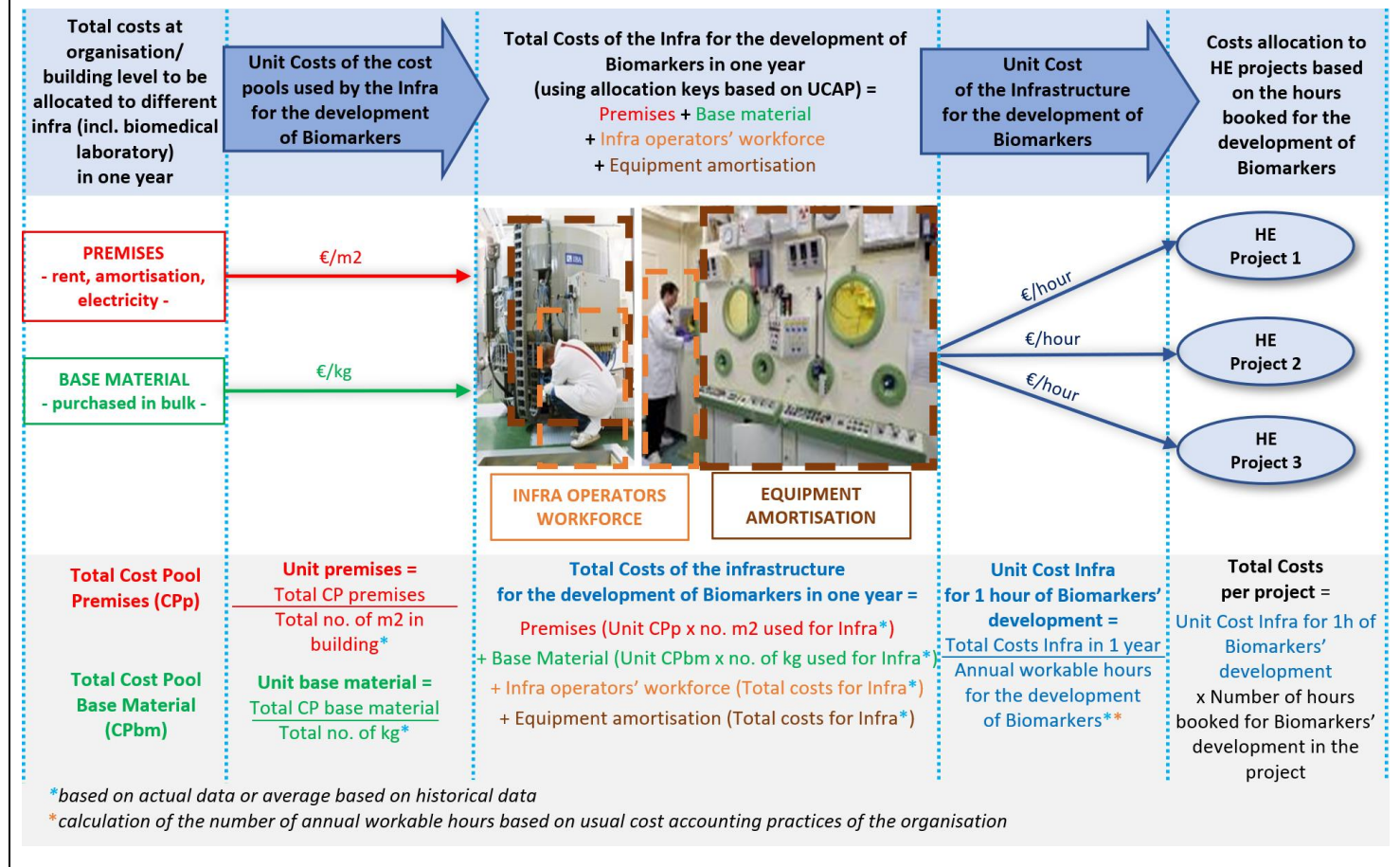
Figure 3 below offers a concrete example of some of the actual and allocated costs for an infrastructure used for the development of Biomarkers, as well as the foreseen new costs due to digitalisation in the near future.

Figure 3: Example of some of the costs incurred in the development of Biomarkers in a biomedical laboratory – From 2019 to 2027: flexibility needed to include new types of costs (incl. digitalisation, AI, data management & storage) over the lifetime of Horizon Europe



Finally, Figure 4 below goes into more details with this example of Biomarkers' development, showing the whole process of cost allocation from the cost pool to the projects using the same schema as Figure 2, with detailed calculation.

Figure 4: Detailed example - Allocating the costs of an Infrastructure for the development of Biomarkers in a biomedical laboratory to Horizon Europe projects with the Internal Invoices' Scheme



EARTO and its experts remain of course ready to further discuss these recommendations with the European Institutions' representatives, and offer their support to enable an efficient implementation of this broaden internal invoices scheme in Horizon Europe, with the aim to better reflect the real costs of the beneficiaries based on their usual cost accounting practices.

RTOs - Research and Technology Organisations

From the lab to your everyday life. RTOs innovate to improve your health and well-being, your safety and security, your mobility and connectivity. RTOs' technologies cover all scientific fields. Their work ranges from basic research to new products and services' development. RTOs are non-profit organisations with public missions to support society. To do so, they closely cooperate with industries, large and small, as well as a wide array of public actors.

EARTO-European Association of Research and Technology Organisations

Founded in 1999, EARTO promotes RTOs and represents their interest in Europe. EARTO network counts over 350 RTOs in more than 20 countries. EARTO members represent 150.000 highly-skilled researchers and engineers managing a wide range of innovation infrastructures.

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