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IT MASTERPLAN 2019

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1. Scope

This IT Masterplan 2019 is the companion of the ECHA SPD 2019-2021. It focuses on the IT expenditure in 2019 and provides an outlook towards 2020.

The IT Master Plan provides insight into the activities and resources to pursue the IT part of the outputs identified in the SPD.

Three words to keep in mind to understand this document: **RUN, GROW, TRANSFORM**. This is state-of-the-practice model to categorise IT expenditure according to a business value perspective.[1] It supports IT portfolio planning and investment in IT products and services.

Run: Operate and maintain
The run part of the model indicates how much of the IT resource is focused on the everyday operations. Run expenses do not directly achieve Agency goals, but they do maintain essential functions and deliver efficiency at the appropriate quality and price for performance

Grow: Enhance and expand
The grow part of the model refers to how much of the IT resource is focused on developing and enhancing existing IT in support of business growth (typically adjustments to ordinary changes in legal requirements or improvements in business processes). They extend existing capabilities and sustain user satisfaction. From an investment perspective, the Grow expenditure enhances the ability to leverage on the initial investment.

Transform: Innovate and drive
The transform aspect of the model shows how much of the IT resource aims at implementing IT based services and new IT capabilities that enable the Agency to address new tasks, new stakeholders needs, enact new business models (e.g. new regulatory approaches or strategies). This is a higher-risk, higher-reward category.

Three key messages:
1. A year of optimisation with a few big transformation projects for delivering new IT-based services as requested by the European Commission or by new legislative acts
2. We can fully leverage the building blocks and the IT architecture implemented so far to deliver new IT-based services effectively and efficiently
3. We are getting into gear to support the ECHA strategy that puts data management and data analytics even more at the core of boosting the regulatory work and answering relevant regulatory science questions.

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[1] Source Gartner, Align IT Functions With Business Strategy Using the Run-Grow-Transform Model, December 8, 2017. Gartner, Inc. is a global research and advisory firm.

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2. Articulation of the IT work into Programmes

(*For readers new to the ECHA IT Masterplans*)
We present the IT work by programme and horizontal functions. Programme is as a coherent portfolio of projects and services mainly focused on one stakeholder type, notably:

IT Solutions for Industry, these are the tools and services to support the preparation of dossiers and chemical assessment for submission to ECHA and to support the interaction of ECHA, and Member States competent authorities, with companies in all regulations (REACH, CLP, BPR, PIC) and Waste Framework Directive

Enterprise Content Management (ECM) and ECHA Interacts Programme, **Chemical Information Portals (CIP) Programme** these are the tools and services to:
- support the work in ECHA processes, the work of the Committees and the interaction of ECHA with national competent authorities[2]
- Disseminate public information on chemicals
- Implement the Delegated Agreements with the European Commission regarding the EU legislation finder (EUCLEF) service and the EU Nano Observatory (EUON)

Data Management Programme, this is the IT (technologies, services, methodologies) to process all business ECHA data in order to give relevant, consistent, integrated and uniquely defined information to the tools in the other programmes and for reporting

Scientific Data Analysis Platform, this is the analytical algorithms and technologies used to mine chemical safety data from ECHA databases and external databases to support screening and prioritisation in the regulatory work, as well as to respond to regulatory science questions.

Management Information System (MIS) Programme, these are the tools and services used in the administration of personnel, finance, logistics and other administrative tasks in ECHA

ICT Help Desk Programme, these are horizontal user support services on workstations and related software, access and corporate facilities like printers. The Programme provides services to ECHA personnel and remote users in the national authorities

Application Delivery and Service Management (ADSM) Programme, these are the services to ensure the operations of the ECHA IT portfolio according to adequate standards of availability, security and performance and to ensure adequate and performant provision of infrastructure services. This programme is crosscutting all other IT Programmes; it serves ECHA personnel and all ECHA Stakeholders.

Normally, IT programmes serve not only their main stakeholder type but also the others. It is a matter of accent and drive.[3]

Horizontal services are:
- IT financial management and support for running the IT Governance
- IT security
- IT support to Business Continuity and Disaster Recovery
- IT Enterprise Architecture

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[2] REACH and CLP Member States Competent Authorities (MSCAs); PIC Designated National Authorities (DNAs); National Enforcement Authorities (NEAs); CLP art.45 Annex VII Appointed Bodies (ABs)
[3] For a detailed list of the IT tools in scope refer to Annex II - IT Portfolio 2019

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3. Financial resources deployed in IT (various points of view)

Classification criteria:
by Programme and budget title[4], 2019 comparison with 2018

Summary of ECHA IT budget by programme and by legislation   **(Table No 1)**
2019 (Year N+1)

Programme	T2-ADMIN	T3-REACH	T4-BIOCIDE	T5-PIC	T3-CLP POISON CENTER	DA EUCLEF	DA NANO	T3-POP	Grand Total
Programme ADSM	4 210 197	1 556 752	146 939	76 312	38 734	26 881	42 939		6 098 754
Programme Chemical Information Portals		879 036	137 000	1 190		873 119	133 625		2 023 970
Programme Data Management	108 490	865 411	129 367	10 224		100 000			1 213 492
Programme ECM & ECHA Interacts	462 740	1 915 520	136 806	2 434					2 517 500
Programme ICT Helpdesk	707 277	66 527	6 652	839					781 295
Programme ICT Procurement	746 358	1 165 630	215 614	7 553					2 135 156
Programme IT Solutions for Industry		1 436 650	486 281	94 420	1 236 157			212 638	3 466 146
Programme iTex		242 725	92 394	2 500					337 619
Programme Management Information Systems	658 871	128 093	16 250	2 049					805 263
Service Enterprise architecture	149 000								149 000
Service IT Security	82 000	126 058	18 251	700					227 009
Service IT Testing	256 680	286 695	8 280				1 035		552 690
Common costs		130 000	10 000						140 000
Grand Total	**7 381 614**	**8 799 096**	**1 403 834**	**198 221**	**1 274 891**	**1 000 000**	**177 599**	**212 638**	**20 447 894**
Scientific Data Platform		900 000							
Project budget carried over from 2018		800 000			1 162 283				

Summary of ECHA IT budget by programme and by legislation   **(Table No 2)**
2018 (Year N), after 1st budget revision

Programme	T2-ADMIN	T3-REACH	T4-BIOCIDE	T5-PIC	T3-CLP POISON CENTER	DA EUCLEF	DA NANO	T3-POP	Grand Total
Programme ADSM	3 505 087	1 703 560	184 193	86 424			56 260		5 535 524
Programme Chemical Information Portals		689 370	231 540			216 570	56 330		1 193 810
Programme Data Management	121 426	1 246 330	20 000						1 387 756
Programme ECM & ECHA Interacts	496 165	1 886 272	57 277	2 432					2 442 146
Programme ICT Helpdesk	655 706	169 562	7 880	1 031					834 179
Programme ICT Procurement	1 230 436	1 451 092	149 167	23 809					2 854 504
Programme IT Solutions for Industry		1 665 635	249 244	87 790	1 392 179				3 394 848
Programme iTex Service Desk		804 058	134 816	2 500					941 374
Programme Management Information Systems	790 362	183 558	19 019	2 489					995 428
Service Enterprise architecture	96 485	150 706							247 191
Service IT Security	36 604	117 227	9 145	701					163 677
Service IT Testing	231 232	328 237	149 765						709 234
Grand Total	**7 163 503**	**10 395 607**	**1 212 046**	**207 176**	**1 392 179**	**216 570**	**112 590**		**20 699 671**

In 2019, the overall level of expenditure is very close to the 2018 expenditure, resources are shifted within the boundary to make room for the new transformational initiatives.

by Run Grow Transform
Disclaimer: This allocation is based on an assessment of the nature of the budget items, in this respect it is not as accurate and exact as the attribution to budget titles

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[4] Project carried over budget refers to: ECHA Cloud Services, REACH-IT, IUCLID (reference is made to first and second 2018 budget revision)

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RGT Classification	2018		2019	
	%	M€	%	M€
Run	64 %	12.5	63 %	12.8
Grow	28 %	5.4	23 %	4.8
Transform	8 %	1.6	14 %	2.9
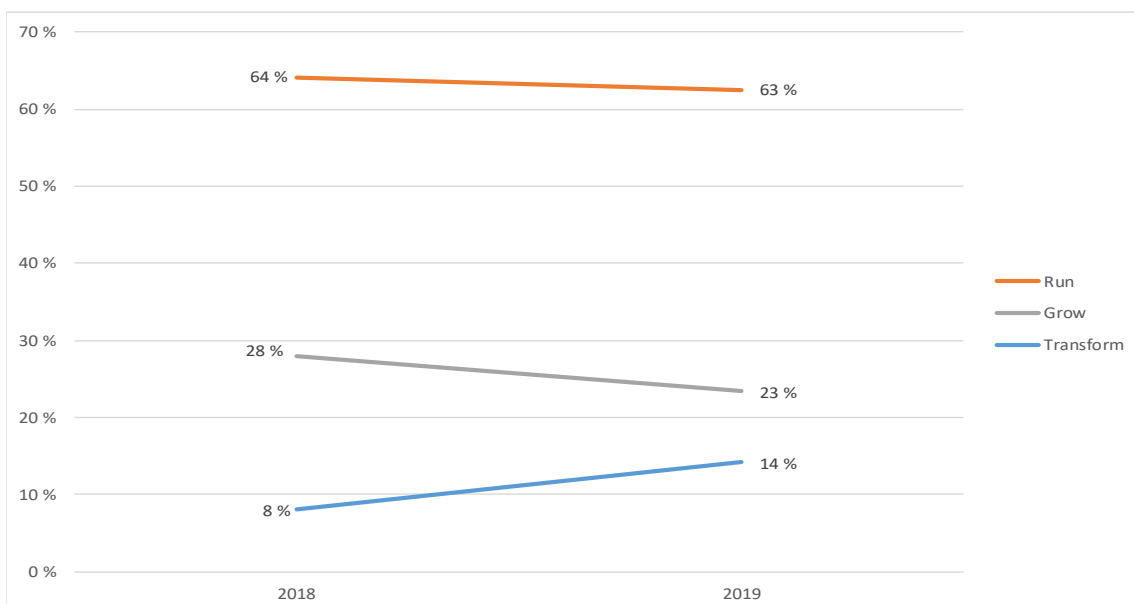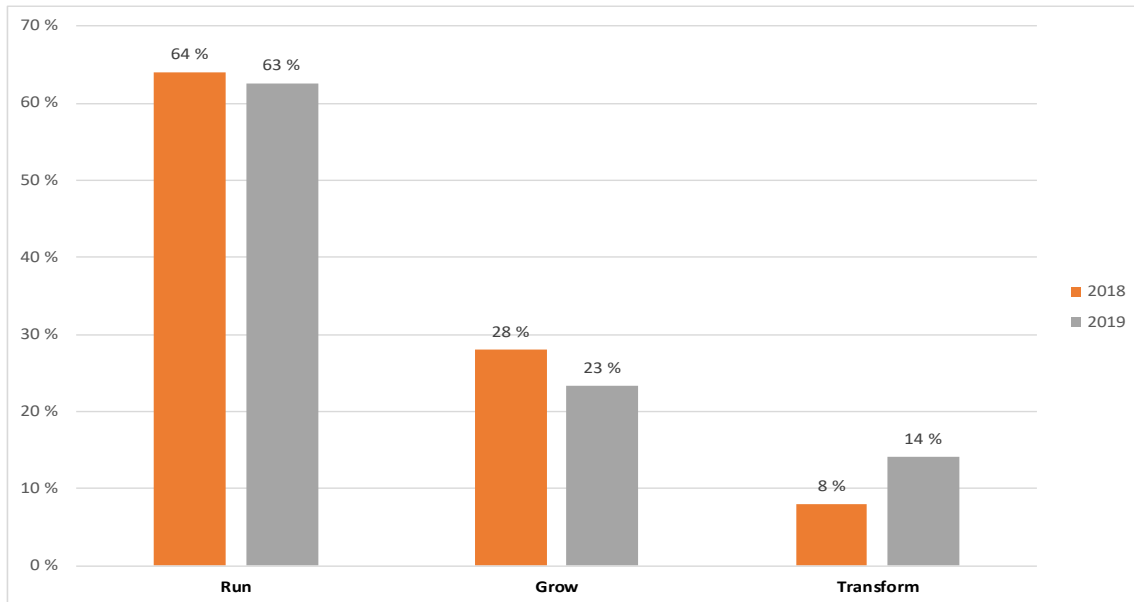
To explain the trend, it is noteworthy that in 2018 ECHA was mostly focused on the REACH deadline for the first half of the year (objective for which the main IT transformations had already happened the two years before). In the course of 2018, with a clear impact on the IT work in 2019 and beyond, ECHA was tasked with three transformational projects and reached two critical turning points: new building, new ICT infrastructure as illustrated in the following chapters.

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IT Budget Classification (2017-2019)

2019

Transfom, 14 %

Grow, 23 %

Run, 63 %

2018

Transfom, 8 %

Grow, 28 %

Run, 64 %
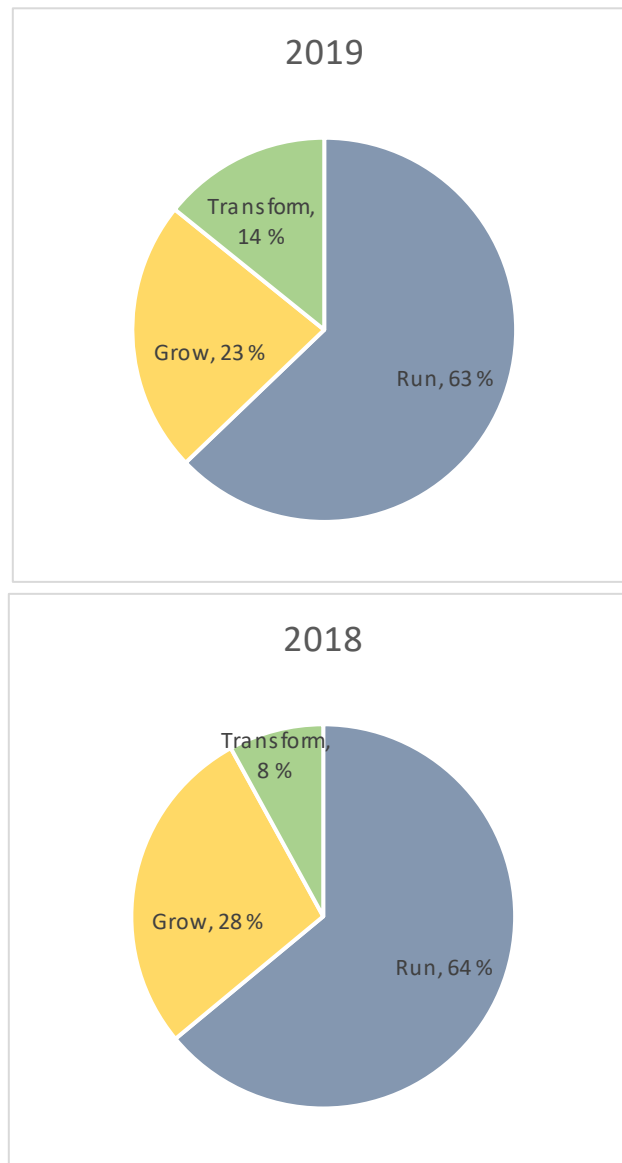
by working with stakeholders

Disclaimer: This allocation is based on an assessment of the main beneficiary of the expenditure based on the purpose of budget items, in this respect it is not as accurate and exact as the attribution to budget titles.

It is noteworthy that the allocation is on "working with", implying that the IT expenditure benefits both parties of the interaction.

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Working with stakeholders (Table No 6)

FMC / BL	AUTHORITIES	INDUSTRY	ECHA	MULTIPLE	Grand Total
⊞ **T2-ADMIN**	93 065		2 848 891	4 439 657	7 381 614
⊞ **T3-REACH**	1 243 578	1 236 650	2 253 065	4 065 803	8 799 096
⊞ **T4-BIOCIDE**	24 220	86 281	320 299	973 034	1 403 834
⊞ **T5-PIC**	686	94 420	8 163	94 952	198 221
⊞ **T3-CLP POISON CENTER**		1 236 157		38 734	1 274 891
⊞ **DA EUCLEF**		973 119		26 881	1 000 000
⊞ **DA NANO**				177 599	177 599
⊞ **T3-POP**		212 638			212 638
Grand Total	1 361 549	3 839 265	5 430 419	9 816 661	20 447 894

Working with stakeholders M€
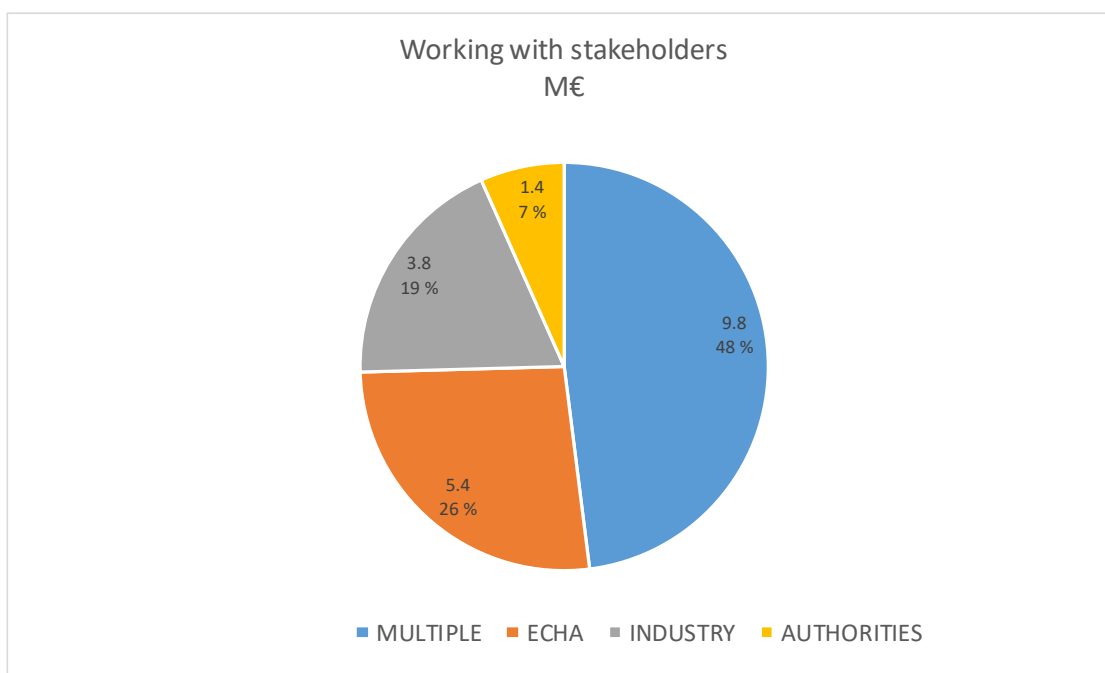
To explain the distribution it is noteworthy that ECHA has implemented a highly integrated IT architecture, therefore it is to be expected that the largest share of the IT budget is deployed to the benefit of multiple stakeholders.

4. 2019 priorities: Run

We run a vast portfolio of IT tools and every single working day we service an order of magnitude of 600-700 on premise or teleworking personnel, hundreds of thousands of industry users, thousands of national authority users and Committees members.
Most of them cannot perform their work without ECHA IT running and performing.
We continuously meet high security, availability and business continuity standards.

- Our regular availability performance indicator is set at "*externally used IT tools must have an uptime of 98% during the opening hours*" (which for some tools is 24 by 7).
- No security breaches have been reported in the last ten years and is our continual target is to keep this result.
- The target level of satisfaction of the stakeholders with IT-based ECHA services is set at "*high*"
- The target internal user satisfaction with the ICT services is set at "*high*"
- The target average time to resolve ICT related requests is set at "*<3 days*"

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Therefore, an all-time priority for IT is cost-effectively achieving the target levels of service and availability.[5]

In this area, in 2019 planned work will focus on:

Focus 1

Optimising the cost of operating the existing IT tools used for interacting with industry in REACH and CLP (notably the IUCLID instance used as central repository of the submitted data by the Agency, CHESAR, REACH-IT) based on the following factors:

a) Availability of a more efficient service sourcing framework contract (established in 2018)

b) Further engineering of automation to reduce the effort intensive repetitive tasks.

The following is an example of the target saving in operating costs:

IT Tool	Annual Cost and scope 2019		2018 Costs	
REACH-IT	74 976	Production environment serviced 24x7. Service Level Agreement for all environments	320 000.00	
IUCLID	105 100	Production environment serviced 24x7. Service Level Agreement for all environments		
ECHA Cloud Services (includes Poison Centre Notification v1)	142 635	Production environment serviced 24x7. Service Level Agreement for all environments	275 000.00	Without Poison Centre Notification v1
TOTAL	322 711		**595 000.00**	

As the preparatory work has started in 2018 and will deliver a running service by February 2019, we have factored the savings into the IT budget 2019.

The impact is that we can redeploy savings and operate new IT tools in 2019 (e.g. Poison Centre Notification Portal) and invest in further optimisation (see Focus 2) with a contained increase in the overall Application Delivery and Service Management operational budget.

Focus 2

Rationalising the varied chain of tools used to manage the operations of the IT portfolio. Such tools are used for example as knowledge base to mitigate the risk of change, as data source to manage the cost of infrastructure services and to shape the sourcing strategy of the future, as day-to-day incident management support, as monitoring support to detect performance issues and last but not least as testing support platform.

We plan to ultimately save time and efforts by rationalising such back-end activities and tools, through harmonisation of practices and better integration of the tools themselves.

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[5] Ref. SPD 2109-2021 performance indicators, particularly 2.3.4 ICT

Ultimately, this is IT for IT that has become necessary due to the constant growth in size and complexity of our IT portfolio.

Budget: 135 500 EUR

5. 2019 Priorities: Transform

5.1. Transition to new datacentres, new infrastructure and new building[6]

After six years of progressive outsourcing and implementation of an asset-free approach to ICT infrastructure, ECHA will change its providers of ICT infrastructure services. The new provider will deliver services based on different datacentres and new hardware and software, sized and configured to support the growing needs of the Agency, particularly in view of the high volumes of incoming data foreseen for the Poison Centre Notification portal and, possibly, the Waste Frame Directive database.
The transition comes at the end of a one-year procurement procedure (competitive tendering through negotiation for a 5 years framework contract that can be extend twice, plus one plus one, total contract value 30 Million Euros) which was part of an overarching plan already presented in the IT MASTERPLAN 2018 as "**Transform and transition**".
In essence, such two-pronged plan consists of:
- to cater for our future needs and to generate as much competition as possible by levelling the playing field, we have **refactored the oldest part of our infrastructure** – the network configuration – according to a more up-to-date and simplified design (so called transform plan; completed in 2018 in parallel with the tendering) and
- **transition to new infrastructure** at the same time with the launch of the new framework contract. This will happen in 2019 and it will entail a **change of datacentres** too. The transition will be considered complete when all the regular services run under the responsibility of the new provider according to the contractual SLAs and the new datacentres/infrastructure are tested for Disaster Recovery. In fact, we plan to maintain the same level of support for Business Continuity as with the old infrastructure and datacentres.

We have timed the transition so that it will be over by the time we can expect to have access to the newly built premises (according to the official builder's plan at the time of writing) in order to set-up the connections to the datacentres and the on premise networks.
In this regard, transitioning without significant disruption of the IT services, enabling IT in the new building, decommissioning the residual hardware assets in the old premises and fitting the timeline for the ECHA move will be a **major endeavour next year and one of the risk areas of this masterplan**.

Budget: 700 000 EUR[7]

It must be noted that during the transition ECHA will also incur Run cost for the continuation of services with the old providers and potentially incur early termination fees.

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[6] Ref. SPD 2019-2021 2.3.4 ICT
[7] Part of the transition projects was funded in 2018

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5.2. Poison Centre Notification Portal[8]

This is project work to release incrementally the IT-based service as scoped in the Decision of the European Commission to task ECHA with such development.
From January 2019, we will also activate rollout and operations services as the first version will go into production use.
The second version will be rolled out and on-boarded into such services from Q4 2019.

Budget: 1 274 891 EUR[9]

5.3. Work on Data

5.3.1. Data collection, integration and reporting[10]

Work continues to standardise the collection and consolidation into the data integration platform of the outcome of the ECHA assessment work (performed in chemical risk management and chemical hazard assessment).
The preparatory work started in 2018 by standardising of the recording of the assessment of concerns (e.g. CMR, PBT etc.). From February 2019, ECHA users of the case management system will be able to record what was assessed, their conclusions and their reasons in a harmonised manner. Such data will be collected, consolidated and integrated into the data integration platform to be used initially for reporting purposes.
In parallel, similar work will be performed on the recording of the outcome of evaluation, commonly defined as assessment of deficiencies.
In both cases, the recording will be retrospective on the pre-existing cases.
At the end of this transformation, ECHA will be able to automatically extract, report on and visualise consistent and coherent data on all assessments performed. Such capability will be used for example to measure and show progress against the REACH 2020 goals.
Possible further developments could be in terms of exposing such data in the work with the national authorities and dissemination.

Budget: 485 000 EUR[11]

5.3.2. Scientific Data Analysis Platform[12]

In 2019, work will also continue to upgrade the tools and algorithms developed to carry out scientific data analysis on chemical safety data and turn them into a corporate platform that can fulfil a number of evolving needs:
- carry out scientific data analysis on chemical safety data in alignment with the evolution of ECHA's regulatory approach
- answer scientific data analysis requests from internal and external experts
- create curated data sets for stakeholders (distributed via dissemination)

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[8] Ref. SPD 2019-2021 1.2.3 Classification and Labelling
[9] In 2019 project work is executed under the REACH and CLP carried over budget from 2018; the 2019 amount covers the 2019 cost of the recurrent services and the amount for the continuation of the project from the end of 2019 well into 2020.
[10] Ref. SPD 2019-2021 1.5 Data management and dissemination
[11] Continuation in 2019 of a transform project initiated in 2018
[12] Excerpt from ECHA's strategic plan: "ECHA will actively explore the potential of IT-based approaches, using opportunities offered by new developments in search and computing algorithms."

- pilot novel data analysis approaches and bring successful prototypes to regulatory practice by hosting them
- interpret the collected data and derive knowledge from them

Thus far, tools and algorithms have been implemented and tuned in prototyping mode. Many of our "prototypes" are now addressing corporate needs and are used to support the work of the MSCAs. Work is needed to prevent incumbent risks (service break, time-consuming maintenance), to broaden the use of these capabilities by scientists and officials who are not data experts, to speed-up discovery/data analysis in alignment with the increasing demand of ECHA's regulatory work.
At the end of this transformation, the **Platform will play a dual role**:
- facilitate the development of prototypes (R&D, but with likely regulatory impact)
- host mature, production-level algorithms (e.g. grouping of substances)

Budget: 400 000 EUR[13]

5.4. ECHA Interacts[14]

We will release two incremental versions of a Portal for authorities and Committees that will consolidate and enrich all the current IT tools for working with ECHA: Portal Dashboard, ECHA MSCAs IUCLID databases, some Interest Groups of in the collaboration tool CIRCA-BC.
This initiative will transform the way "external" participants to the regulatory work will access the data, manage their tasks, be informed on what is going on, collaborate with ECHA in producing specific outputs (e.g. rapporteurs), receive support: briefly, how they interact with ECHA.
Services will cover: simplified sign in, single sign on, single entry point, tailored access to case and substance information based on the role of the user (e.g. inspector vs. competent authority user), security measures tailored to the breadth and depth of access granted, controlled secure access for individual experts (e.g. adviser to Committee member).

The intended benefits are:
- Simpler way to retrieve information
- Less effort for ECHA to make information available
- Reduce time of document transfer between platforms
- Better version control of documents on which various actors collaborate
- Fewer distribution channels can increase consistency
- More secure access control.

The stakeholders who will benefit from ECHA Interacts are Competent Authorities, Committees (Members and Advisors), National Enforcement Authorities, Expert Groups.
We plan to address such communities gradually.
- March 2019: Committee Rapporteurs ~ 150 users
- November 2019: Committees plus some processes involving competent authorities ~ 750 users
- Subsequent waves: up to ~ 2000 users.

Budget: 755 000 EUR

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[13] Continuation in 2019 of a transform project initiated in 2018
[14] Ref. SPD 2019-2021 1.5 Data management and dissemination

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5.5. Other transformational initiatives

ECHA will work on two additional new IT-based services in 2019: EUCLEF (EU Chemical Legislation Finder) and the Waste Frame Directive (WFD database) data collection on SVHC in articles.

5.5.1. EUCLEF[15]

a delegated task currently performed under an agreement with the European Commission timed 2018-2019, will deliver a navigator service to companies to find their obligations deriving from European legislation on a given chemical substance. Based on a feasibility study performed in 2018, ECHA has decided to licence pre-processed data from a specialised market operator, selected through a call for tenders.
In 2019, we plan to start the integration of the licenced data for an initial set of 35 identified EU legislations into the ECHA systems for dissemination, towards a launch of the service in the beginning of 2020.
In this context, ECHA will reach out to the Commission's services in charge of the legislations in scope to establish working mechanisms in order to ensure continued support and help desk facilities for companies.
Successful service delivery and availability of additional fund can lead to the extension of the scope to up to 55 identified EU legislations.

Budget: 1 000 000 EUR

WFD database[16]

The Waste Framework Directive mandates ECHA to establish and maintain a database for communication of information on substances of very high concern in articles in the supply chain. EU suppliers of articles will submit of information and waste treatment operators will be able to access the database, information will be available to consumers (upon request).
At the time of writing, ECHA does not have a firm solution proposal yet. Work is ongoing at business and IT level to address the numerous open questions and uncertainties.

No financial resources are currently available for the future implementation work.
ECHA is deploying current human resources to design a solution. The uncertainty on resources is one of the risks identified for the accomplishment of this IT MASTERPLAN (ref. 7 Risk Management).

6. 2019 priorities: Grow

In this chapter, we illustrate the highlights of the allocation of Grow-type of expenditure and resources. Besides the highlights, most IT programmes deploy financial and human resource on evolutionary maintenance of their portfolio. We provide an indicative break down by this type of expenditure.[17]

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[15] Ref. SPD 2019-2021 1.6.2 EU Chemicals Legislation Finder
[16] Ref. SPD 2019-2021 2. Safe and sustainable use of chemicals by industry
[17] Disclaimer: This allocation is based on an assessment, in this respect it is not as accurate and exact as the attribution to budget titles

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Programme	Grow €
⊞ Programme ADSM	67 789
⊞ Programme Chemical Information Portals	668 630
⊞ Programme Data Management	597 296
⊞ Programme ECM & ECHA Interacts	898 800
⊞ Programme ICT Helpdesk	75 000
⊞ Programme ICT Procurement	74 518
⊞ Programme IT Solutions for Industry	1 611 574
⊞ Programme iTex	0
⊞ Programme Management Information Systems	386 891
⊞ Service Enterprise architecture	16 000
⊞ Service IT Security	0
⊞ Service IT Testing	368 253
⊞ Common costs	0
Grand Total	4 764 751

6.1. Optimisation and leverage

In the area of **IT solutions for Industry** (ref. 2 Articulation of the IT work into Programmes) the first post REACH phase-in year, work will focus on **optimisation and leverage**.

6.1.1. IUCLID

The multi-annual investments of ECHA on the IUCLID tool, as the cornerstone for preparing data for submission not only in REACH and in CLP but in BPR too, has turned IUCLID into a proper platform not only for companies but even more importantly for the work of ECHA and the national competent authorities.

What type of asset have we created?

IUCLID is mainly used by:

Chemical industry, in order to:
- Manage chemical data in standard XML format (OECD Harmonized Templates)
- Create submission dossiers under EU regulations
- Validate data before submission
- Generate reports (e.g. CSR)

European Chemical Agency, in order to:
- Perform the processing of submitted dossiers and issuing registration decisions
- Perform the processing of active substance dossiers in BPR
- Perform Compliance checks
- Examine testing proposals

Member States Competent Authorities, in order to:
- Evaluate substance information
- Provide review notes

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Other non-EU Regulatory Bodies (OECD, Australia[18], New Zeeland, Canada, US-EPA, etc.), in order to:
- Collect chemical data in standard XML format (OECD Harmonized Templates)
- Validate data applicability

In essence, IUCLID is an EU and (to some extent) global repository of chemical safety data in standard format. Around the repository, we have developed a roster of capabilities such as:

- The IUCLID User Interface to perform numerous tasks[19]
- The IUCLID Application Programming Interface (API) to facilitate building custom User Interfaces that utilise IUCLID's data structure and engines (for example the simplified interface in ECHA Cloud Services for SMEs-like type of registration)
- The IUCLID Extension Framework to perform special tasks on stored data[20].

In business terms, the IUCLID Extension Framework is used to enable many user visible functionalities accessible via other IT tools without any duplication of data from the IUCLID repository. This is the concrete implementation of the concept "IUCLID at the centre of integration". We released it (also known as IUCLID 6) as part of the revamp of our IT Enterprise Architecture in 2016 and further developed it afterwards. For example, the IUCLID Extension is used in: Text Analytics (it enables to search in the free text and attachments e.g. Chemical Safety Report, used in the substance screening and prioritisation process); CHESAR, R4BP, Odyssey, Portal Dashboard; and in the imminent future Poison Centre Notification Portal (the notification format released by ECHA in 2018 is an IUCLID format).

Key ECHA tools, such as Dissemination and REACH-IT, rely heavily on IUCLID libraries and services. Likewise for the Scientific Data Analysis Platform (ref. 5.3 Work on Data).

Such a core asset – for Business and IT – has to be continuously maintained and improved well beyond the end of the REACH phase-in period. Stakes are too big for the ECHA work on data, on the REACH review actions and on the delivery of new IT-based services (as described in 5 2019 Priorities: Transform) to disinvest.
Certainly, in the context of "optimisation and leverage", continuous investment in maintaining IUCLID will be driven by business opportunities; for example the development of ECHA Cloud Services has been an opportunity to lay the groundwork for consolidation of the traditional IUCLID with the Cloud ready IUCLID.

According to this "business opportunity driven" model, work in 2019 will focus on the following areas.

Focus 1
In 2019, we will release the convergence of traditional IUCLID and IUCLID for Cloud into one product that we started in 2018.

Focus 2
IUCLID will be adapted for the preparation and handling of Poison Centre Notifications

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[18] Australia have built their own notification forms on top of an IUCLID platform, hereby reducing their development time and costs – a similar approach could be considered by other EU institutions, e.g. EFSA. EFSA and ECHA are exploring the options.
[19] For example substance management, Dossier creation and validation, report generation, dossier aggregation and filtering of confidential information etc.
[20] For example: Register custom queries, convert IUCLID dossiers to different data structure, data extraction, data updates, data upload (data coming from other institutions) etc.

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ECHA Cloud Services will be extended to cover the online handling of Poison Centre Notifications by Industry. Such extension will benefit entirely from the functionality, architecture and service model implemented for the 2018 REACH registration deadline. Separate on-line data preparation functionalities originally developed separately (e.g. in REACH-IT) will be integrated more coherently in ECHA Cloud Services.

Because of Focus 1 and 2, at the end of 2019 ECHA will have leveraged the investment in ECHA Cloud Services to offer Industry an expandable on-line single-stop platform to manage data in IUCLID format and fulfil different legal requirement without bearing the cost of company specific IT infrastructure.

6.2. Adaptations to business changes

6.2.1. Case management and related tools

(ref. 2 Articulation of the IT work into Programmes)

These tools are at the core of the regulatory work in ECHA. Tens of thousands cases are currently stored and traceable in the systems. This is the main source of archived records of the Agency too. Besides a number of ordinary changes and improvements, the main focus will be on changes necessary to support:
- the intensification of the work by grouping of substances
- further efficiency by developing better integration with other IT tools
- the evolution of the ECHA policy on the addresses of the Evaluation decisions

6.2.2. Chemical Information Portals

(ref. 2 Articulation of the IT work into Programmes)

Besides User Interface, search and usability improvements on the Dissemination web pages the focus will be on adaptation to new versions of IUCLID and technical improvements. In fact the purpose of these tools is to give access to information on chemicals (general public and national authorities) and they are dependent on data source system that change over time (e.g. due to changes in the regulations and/or in the regulatory approach) requiring adaptation.
The recently released BPR scope will require fine tuning in 2019.
In REACH&CLP, continual extension of scope accessible to MSCAs and Enforcement will be pursued in 2019.

6.2.3. Persistent Organic Pollutant (POP)

ECHA will develop IT support to the preparation of the Union Report by Member States, the Agency will oversee the process for the inclusion of such substances in the regulatory list.
ECHA will maximise the reuse of existing processes and IT systems.

Grow budget: 159 000 EUR

6.2.4. BPR

The focus will be on general improvements of R4BP and better integration with other ECHA tools for efficiency. In addition to that, emphasis will be given to the optimisation of the maintenance and operations of R4BP.

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Run and Grow budget: 1 311 292 EUR

6.2.5. PIC

Run and Grow budget: 198 683 EUR

Most of the maintenance of the submission tool ePIC will be directly funded by the Commission DG Environment. Under such contract we will:

- Finalise the changes required by the withdrawal of the UK from the European Union

- Start to work on improving reporting.

7. Risk Management

Nr.	Risk Description	Undesired effect	Action
R1	Delayed/impactful transition to the new ICT infrastructure services Delayed readiness of network connectivity in the new premised	Disruptions to ECHA business operations Unplanned financial costs	Strong and proactive project and contract management Retain savings on delayed services and/or penalties as contingency budget Close coordination with the new building project Plan B to be prepared with the Outsourcer in H2 2019 if access for networking works to the new building is seriously delayed
R2[21]	Waste Framework Directive: Due to timelines, scope of the legislation and/or unawareness of the industry's intentions combined with lack of sufficient resources[22]	ECHA may not be able to implement a duty stemming from a legal text to set up a SVHC database (under WFD) by 5 January 2020	Balance ambition and usefulness on the one hand and sustainability on the other hand in the solution design Maximise reuse and leverage of existing IT solutions and components

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[21] Also recorded in corporate risk register
[22] At the time of writing negotiations with the European Commission on the resourcing are ongoing as well as research activities to understand the intentions and expectations of the various players.

7.1. IT Governance as management of risks

IT Governance has always been a key success factor for ECHA. In 2019, we foresee limited changes, mostly to take the opportunity of the ECHA reorganisation for adapting and potentially further streamlining the IT Governance.

IT Governance is a primary risk prevention/mitigation instrument. It addressed the following main risks:

The risk of not doing the right thing
> What IT Governance does is enabling decisions on investments grounded on cost-effectiveness analysis (ex-ante evaluation), prioritisation, allocation of financial and human resources aligned with the ECHA strategy.
> The 2019 IT MASTERPLAN is the result of the prioritisation and allocation decisions taken through the IT Governance.

The risk of not doing things right
> Through IT Governance we maximise the performance of IT delivery according to the key parameters: on-time, within budget, adequate quality.

In addition IT Governance is at the core of:
- Compliance with the Financial Regulations and in particular with the principle of sound financial management in IT
- Adequate IT security
- Adequate support to Business Continuity and Disaster Recovery.

Financial value of IT Governance
It is possible, accepting some approximation, to estimate the financial value of IT Governance by assessing the indicative money saved by preventing / mitigating the risks above.
Benchmark metrics produced by Gartner out of their extensive metrics database spanning 21 different Industries tell us that the **failure rate of IT projects is 26%[23].**
Report says: on average 62% of application development projects are completed on-time and 70% are completed on-budget.
From the on-time point of view governments are on the industry average (62%) and on-budget slightly above the average (72%).
Schedule variance on average is 20% with governments close to industry average (21%).

Main reasons for being late or over budget (0-5 scale)
- Poor initial scope (4.0)
- Scope creep (3.9)
- Resource availability (3.6)
- Shifting priorities (3.4)
- Technical expertise (2.7)

7% of project are cancelled before delivery (6% for governments).

Project success rate
- 26% "gone wrong": 11% expectation not met; 15% somewhat disappointing
- 47% somewhat successful
- 27% outstanding success.

26% of "gone wrong" projects are mostly due to functionality (36%) and schedule (29%) topped with quality (19%) and cost (16%).

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[23] Gartner, IT Key Metrics Data 2018: *Key Applications Measures: Project Measures: Current Year*, published: 11 December 2017. The Gartner IT Key Metrics Data (ITKMD) series of reports was established in 1995 to support strategic IT investment decisions, and today the annual publication delivers more than 2,000 metrics, across 90 documents and covers 21 different industries.

Can we apply this model to ECHA IT MASTERPLAN 2019? Yes, with the caution necessary in any high level, coarse grain benchmarking.
The "Transform" budget is project budget and the riskiest investment for ECHA, totalling at ca. 3M Euros in 2019 (ref. 3 Financial resources deployed in IT).
26% of such budget is ca. 800 000 Euros.
Therefore, it is reasonable to say that the cost of failure would be inefficient and ineffective investment for at least 800 000 Euros. It is fair to say that well-functioning IT Governance prevents exactly the "main reasons" listed above leading to such undesired employment of funds. Consequently it is reasonable to say that good IT governance protects an order of magnitude of 800 000 Euros investment per year.
Considering that ECHA does more projects that the "Transform" ones, this "value of IT Governance" is a prudent underestimation.

7.2. IT Security

2018 was yet another year of well managed security risk as no breaches are to be reported.

In 2019, we will target the same result in the context of two main evolutions.

At the end of 2018, our standard security model was extended to cover "access to potentially confidential data stored in ECHA systems for individual experts"[24]. Initially, individual experts will be experts involved in the assessment of specific cases as ECHA Committees members or advisers. Progressively, from Q1 2019 ECHA will grant them access on a need to know basis through the ECHA Interact (ref. 11 ECHA Interacts). The proposal was unanimously endorsed by the Security Officers Network (representing all MSs) and submitted to the ECHA Management Board in December 2018. In 2019, our focus will be on implementation and user support.

The extension of the scope of ECHA Interacts in 2019 will require parallel work and attention on the standard security measures and particularly the access management component of it. Aspects like evolving two factors authentication (now physical token based) towards software solutions and/or re-use of the European Commission central service (so called EU-login) will be investigated.

In 2019, we will work on adapting our standard security model to the access of national Appointed Bodies to the Poison Centre Notification Portal (ref. 5.2 Poison Centre Notification Portal), initially in relation to the scope of the first basic version to be released at the beginning of the year and subsequently to the growing scope foreseen for the November release and beyond. Our intention is to make the security model always proportionate to risk and to the level of access chosen by the Appointed Bodies, taking into account that adherence to the full scope of the ECHA Portal will be on voluntary basis. This would be the first time that different national authorities adopt different access models and ECHA will have to consider the consequences in its security implementation.

7.3. IT support for Business Continuity and Disaster Recovery

In 2019, a major change in the IT infrastructure services will require re-testing of the IT solutions for Business Continuity. It will consist of the execution during working hours of a provoked fail-over from the infrastructure in one datacentre to the infrastructure in the second data centre. Such testing will also be a core part of the acceptance of delivered service for the transition-in project, led by our new outsourcing contractor (ref. 5.1 Transition to new datacentres, new infrastructure and new building)

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[24] At the time of drafting this is still a proposal for the December 2018 ECHA Management Board meeting.

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8. Sourcing

No major changes in the IT sourcing strategy will happen in 2019.

Main tenders[25]
> We will replace the procurement channel for software services and application management services in the area of the Chemical Information Portals Programme and Web site.
>
> We will establish a procurement channel for desktop services. The orientation is to progress in our asset-free model by considering the advantages/disadvantages of the desktop-as-a-service option and researching the market before launching our Call.

8.1. Collaboration with EU Commission's department for informatics (DG DIGIT)

ECHA has a history of joining DG DIGIT's framework contracts for hardware and software, saving procurement efforts and benefitting from the negotiated prices (economy of scale). Since 2016, DG DIGIT is charging an annual fee in compensation of their procurement services on behalf of others.

Recently DG DIGIT has shown an intention to change their traditional approach to joining EU agencies to their initiatives. They are now engaging agencies more deeply in the preparation of the tenders and try to better suit their needs too; they are more open to facilitating the reuse by the agencies of some general purpose IT services and IT components; analogously DG HR is offering the Commission HR management system as a service to EU agencies for an annual charge.

In this context, ECHA is reflecting on how to leverage the DIGIT's services more, and more advantageously than in the past.

We have identified a first set of initiatives. It is noteworthy that experience has proven that any concrete collaboration requires significant investment of efforts to mitigate the risk of inconclusive discussions or that the result do not match the needs of ECHA. At the same time the services of DG DIGIT are no longer free of charge and sometimes they are close to the cost of a market service. Therefore, we have been careful in the activation of selected work streams.

Cloud II: call for tender and future framework contract

We will collaborate with the DG DIGIT in the upcoming European Tender ("very" high value) to establish a channel - opened to all EU bodies who decide to join - for sourcing Infrastructure-as-a-Service from public cloud providers.[26]
Whereas in our current IT sourcing strategy we have always primed private could over shared mostly due to security concerns and borne the cost of it, this joint procurement could pave the way towards sharing of infrastructure among EU bodies (so-called trusted community cloud) with a potential interesting repercussion on costs.

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[25] A full IT procurement plan is part of the ECHA procurement plan 2019 provided with the Single Programming Document 2019-2021
[26] The Commission (DIGIT) in currently preparing for its next generation cloud service contract, to which EUIs can join. The maximum value of such framework contract is estimated at 325 Million EUR.

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As ECHA has extensive and recent experience in tendering for private Infrastructure-as-a-Service, ECHA can assist DIGIT in drafting the Technical Specifications on our areas of expertise and thus also have a say in areas of interest to us. This would give ECHA influence on the tender and related specifications.
To this effect, we will allocate minimum 0.5 FTEs in 2019.

Reuse of deliverables of DIGIT's ISA[2] (Interoperability Solutions for public Administrations, businesses and citizens)[27]

We plan to reuse some of the building block promoted by ISA[2] to transfer data securely between ECHA and the national Appointed Bodies as one of the key functionalities of the Poison Centre Notification Portal (i.e. "e-Delivery"). Developing our own mechanism for secure data exchange and propagate it to the Appointed Bodies would be a substantial additional cost for the implementation project.

Secure collaboration platform for ECHA Interest groups (including Committees) S-CIRCABC

The platform is hosted, operated and serviced by DG DIGIT under a memorandum of Understanding between ECHA and DG DIGIT. ECHA has currently over 70 interest groups in S-CIRCABC and they are used by about 2600 individual users.

This year, it was discussed and agreed between DG DIGIT, ECHA and Eurostat that the latter would start using S-CIRCABC with the aim to share the costs. However, we have not yet concluded for the final version of the new Memorandum of Understanding.
Annual cost of the current Memorandum is about €118 500. In the proposal of DG DIGIT for the new Memorandum, it would be about €101 000.

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[27] The ISA² Programme supports the development of tools, services and frameworks in the area of e-Government. Most solutions and services are available free of charge to any interested public administration in Europe. CEF Digital is the digital arm of the Connecting Europe Facility, investing in digital building blocks and cross-border digital infrastructures that improve the daily lives of European citizens.

9. Link to main procurements in the ECHA procurement plan 2019

The following tables provides a link between the content of the IT MASTERPLAN and the ECHA procurement plan 2019 (annexed to the ECHA Single Programming Document). It must be noted that for a specific initiative there is no coincidence between the budget figures that can cumulate several procurements and the main procurements illustrated hereafter.

Row number	Contract subject/reference to IT MASTERPLAN	Estimated budget (€)	Procurement channel[28]/ Memorandum of Understanding (MoU)[29]	Foreseen launch	Foreseen signature
18	Data management and data screening/SDAP **Outsourced software services related to 5.3.2 Scientific Data Analysis Platform**	300 000	FWC ECHA/2017/10	Q2	Q3
19	Services related to development and maintenance in 2019 of ECHEM Portal (the Global Portal to Information on Chemical Substances) **Outsourced software services related to 6.2.2 Chemical Information Portals** and IUCLID Template Manager (ITEM) **Outsourced software services related to 6.1.1** IUCLID	400 000	FWC ECHA/2014/86 and FWC ECHA 2017/09	Q2-Q4	Q3-Q4

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[28] Procurement channel is a framework contract (FWC) that ECHA has established or plans to establish through tendering or joined (e.g. the EU Commission's department for informatics DG DIGIT framework contracts, Finnish public procurement Agency HANSEL framework agreements).

[29] Memorandum of Understanding in this context normally refers to a Service Level Agreement established with the EU Commission's department for informatics (DG DIGIT)

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Row number	Contract subject/reference to IT MASTERPLAN	Estimated budget (€)	Procurement channel[28]/ Memorandum of Understanding (MoU)[29]	Foreseen launch	Foreseen signature
20	Several contracts for PROGRAMME ECM & ECHA Interacts **Outsourced software services, studies and support services (e.g. help desk) related to 6.2.1 Case management and related tools and 5.4 ECHA Interacts**	2 050 000	FWC/2015/321, FWC DI-7360 SIDE, FWC ECHA/2014/86 and FWC ECHA/2017/09, MoU with DG DIGIT	Q4-2018-Q1/Q3-2019	Q3
21	Several contracts for PROGRAMME IT Solutions for Industry **Outsourced software services, studies and support services (e.g. help desk) related to:** **5.2 Poison Centre Notification Portal,** **6.1 Optimisation and leverage,** **6.2.3 Persistent Organic Pollutant (POP),** **6.2.4 BPR and 6.2.5 PIC**	3 466 000	FWC ECHA/2016/333 and FWC ECHA/2017/09, FWC ECHA/2017/10, FWC ECHA/2014/86. DG DIGIT/HANSEL	Q4-2018-Q1/Q3-2019	Q4
22	Several contracts for PROGRAMME ADSM & RM (*Application Delivery and Service Management & Release Management*) for the IT applications of ECHA **Outsourced ICT infrastructure services and application management services, support services (e.g. service desk), hardware and software licences related to:** **4 2019 priorities: Run,** **5.1Transition to new datacentres, new infrastructure and new building,** **7.2 IT Security,** **7.3 IT support for Business Continuity and Disaster Recovery**	1 900 000	FWC ECHA/2014/86, FWC ECHA/2017/10, FWC ECHA/2017/09, FWC ECHA/2015/321, FWC ECHA/2016/333, FWC ECHA/2010/95N, FWC ECHA/2016/400 and DG DIGIT FWC SIDE II	Q4-2018-Q1/Q3-2019	Q3/Q4

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Row number	Contract subject/reference to IT MASTERPLAN	Estimated budget (€)	Procurement channel[28]/ Memorandum of Understanding (MoU)[29]	Foreseen launch	Foreseen signature
23	Several contracts for PROGRAMME CHEMICALS INFORMATION PORTALS **Outsourced software services, studies and support services (e.g. help desk) related to:** **5.4 ECHA Interacts** **5.5.1 EUCLEF** **6.2.2 Chemical Information Portals**	2 060 000	FWC ECHA/2014/86, FWC ECHA/2014/110 and FWC ECHA/2016/333 and FWC ECHA/2017/10 FWC ECHA/2018/560	Q1/Q3	Q1-Q4
24	Several contracts for PROGRAMME Management Information Systems **Outsourced software services, studies, support services (e.g. help desk) and software licences related to:** **4 2019 priorities: Run** **5.1 Transition to new datacentres, new infrastructure and new building**	150 000	DG DIGIT SIDE II and FWC ECHA/2015/321	Q4-2018-Q1/Q2-2019	Q3
25	Several contracts for PROGRAMME Data Management Services **Outsourced data and software services, studies and support services (e.g. help desk) related to:** **5.3.1 Data collection, integration and reporting,** **5.5.1 EUCLEF** **6.2 Adaptations to business changes**	1 100 000	FWC ECHA/2017/10	Q1/Q2	Q1-Q4
26	Several contracts for PROGRAMME ICT Help-desk **Outsourced support services (e.g. help desk) hardware and software licences related to:** **4 2019 priorities: Run**	75 000	DG DIGIT FWC NATACHA III, FWC DI-07660 (Microsoft)	Q4-2018-Q1/Q2-2019	Q1-Q4

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Row number	Contract subject/reference to IT MASTERPLAN	Estimated budget (€)	Procurement channel[28]/ Memorandum of Understanding (MoU)[29]	Foreseen launch	Foreseen signature
28	Several contracts for PROGRAMME ICT Procurement: Maintenance of Hardware and Software **Outsourced support services (e.g. help desk) hardware and software licences related to all the areas of the IT MASTERPLAN**	1 240 000	DG DIGIT FWCs	Q4-2018-Q4/2019	Q1/Q4
29	PROGRAMME ICT Procurement: Programme management services **Outsourced support services related to the Programme management services in several areas of the IT MASTERPLAN**	30 000	ECHA/2014/86	Q4-2018/Q1-2019	Q2/Q3
30	Horizontal service: ICT Security: set-up and annual security costs	90 000	FWC ECHA/2016/333, FWC ECHA/2017/09 and FWC ECHA/2018/560	Q1-Q4	Q2/Q3
31	New FWC for IT services related to ECHA Website, C&L Inventory, C&L Platform, Dissemination, eChemPortal, ECHA Interacts Authority Platform / Portal Dashboard, EUCLEF, and other related IT systems (4 years) **Outsourcing framework contract that will be the main channel for services in the areas of the Chemical Information Portals (CIP) Programme, the ECHA Interacts initiative and the ECHA web site**	11 000 000	Open call for tenders	Q1	Q1/Q2

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Row number	Contract subject/reference to IT MASTERPLAN	Estimated budget (€)	Procurement channel[28]/ Memorandum of Understanding (MoU)[29]	Foreseen launch	Foreseen signature
	Ref. 8 Sourcing				
31	Handover/setup of new FWC for IT services (as above)	140 000	FWC ECHA/2018/560 and FWC ECHA/2014/86	Q1	Q1-Q4
32	Horizontal service: IT testing services	300 000	Service Contract ECHA/2015/400 under HANSEL Framework Agreement	Q1-Q4	Q1/Q2
33	FWC for managed IT services in the area of desktops/workstations **Outsourcing framework contract that will be the main channel for desktop as a service and related management services** **Ref. 8 Sourcing**	TBC	**Open call for tenders**	Q1-Q2	Q3-Q4

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10. Outlook 2020

The main visible trends are linked to the main transformations outlined in chapter *5 2019 Priorities: Transform*.

The Poison Centre Notification Portal will reach maturity and support the deadlines foreseen in the regulation.

EUCLEF will become a recurrent service, potentially expanded to cover additional EU level and/or national level obligations.

EUCLEF and the Waste Framework Directive database will be at the beginning of a maturity curve still requiring substantial investment.

Work on data will continue to be sustained and keep evolving alongside the ECHA strategy in the regulatory field.

2020 will be the year of stabilisation of the ICT infrastructure services after transition-in and of total activation of the new premises from an ICT perspective. Stabilisation phases normally require Grow type of expenditure but mostly Run expenditure. In this regard, the advantageous prices achieved in 2018 with the award of the ICT infrastructure services Framework Contract will start having an effect.

2020 will mark the start of a renovation of the workplace IT. We will enter into the age of desktop-as-a-service as mentioned in chapter *8 Sourcing*, moving from capital expenditure into operational expenditure also for this part of our hardware cost.

We already observe significant potential in the reuse of ECHA Cloud Services for efficient delivery of the IT-based services that new regulatory tasks entail and for maximising the use of standard formats (IUCLID) for chemical risk assessment.