



# Tax Incentives for R&D in Switzerland



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Research & development (R&D) constitutes the essential basis for innovations and consequently for new product developments, new services and technologies and, indirectly, for continued economic growth in Switzerland. Using a targeted educational, research and innovation policy, Switzerland has therefore spent many years trying to further increase its location quality and to boost its commercial appeal through strategic, targeted investment. However, a key element has been disregarded to date: the creation of tax incentives for R&D. These must be clearly differentiated from subsidies, which are paid irrespective of a company's success and consequently can lead to distortion of competition and disproportionate market intervention.

Switzerland continues to enjoy worldwide recognition as one of the countries with the highest innovation capacity. For years, Switzerland has occupied a leading place in the international innovation index but recently there have been growing indications that a reversal could be imminent, since international competition with regard to attractive research locations has become more and more intense. In particular, small and medium-sized enterprises, which are particularly embedded in Switzerland, are feeling the change.

Some four years ago, KPMG carried out a similar survey together with the Swiss-American Chamber of Commerce, although they restricted the survey to a smaller group of participants then. The current study, which

## Targeted tax incentives strengthen Switzerland's innovation capacity.

was prepared this year with the help of the trade association and economiesuisse, includes, in addition to large, international conglomerates, many small and medium-sized enterprises. The same trend with regard to the internationalization of R&D activities is apparent at the latter as at the large conglomerates.

A look at foreign jurisdictions shows that tax incentives have become indispensable for future-oriented educational and economic policy-making for Switzerland as an R&D location, which is backed up by the results of the study. The present publication is to be understood as a contribution to substantiating the political discussion. In addition to analysing the results of the survey, the tax experts at KPMG AG firstly highlight how the current proposal by the Swiss Federal Council can be supplemented, and secondly how the cantons should exploit their room for maneuver in accordance with current international developments to offer companies practicable and competitive solutions.

A handwritten signature in blue ink, appearing to read "Stefan Kuhn".

# Executive Summary

Today, Switzerland has a high level of innovation capacity and is commonly cited as the world's most innovative country.<sup>1</sup> Switzerland owes this strong position both to the large multinational companies domiciled here and its many small and medium-sized enterprises (SMEs), which have a high level of innovative capacity. Many of these companies already conduct more and more research and development abroad, whether because of proximity to sales markets or production sites or because of better framework conditions. In the light of international competition, this trend must be counteracted. In order to preserve or strengthen Switzerland as a research location and its innovative capacity, innovation-promoting framework conditions are necessary. Input incentives to promote R&D have proved to be a suitable method and also enjoy international acceptance.<sup>2</sup>

The proposal by the Swiss Federal Council of June 5, 2015 is to be welcomed in principle, even if it is currently only limited to cantonal and local taxes. The results of the survey confirm the importance of suitable framework conditions and incentive measures in connection with R&D.

The most important results can be summarized as follows:

- Within the last five years, the companies surveyed have only established new R&D centers in Switzerland in a quarter of the cases; accordingly new centers are mainly being established abroad.
- When choosing a location for R&D activities, tax incentive measures were classified as important or very important by 72% of the companies surveyed. Greater importance was only attached to the opportunity of working with universities and similar

institutions (85%), access to highly qualified international experts (94%), and political and economic stability (95%).

- The majority of the companies surveyed were indifferent regarding the choice of location for future R&D centers. Of those companies that are planning to reduce their R&D activity in Switzerland, 95% indicated that the introduction of tax incentives for R&D in Switzerland could have a positive influence in favor of Switzerland on their decision regarding the choice of location.

In its announcement of June 5, 2015 and the relevant presentation to the cantons, the Swiss Federal Council conceded that it might be possible to promote research and development by making these expenses more than 100% deductible. This is to be welcomed in principle. The presentation has set benchmarks in principle and, on the one hand, leaves the cantons considerable scope, relatively speaking, meaning that this paper serves as a guideline for political discussion at cantonal level. On the other hand, certain benchmarks should also be reset or specified in detail in order not to overly restrict the cantons' scope for maneuver.

In our opinion, the following issues should be specified in detail or reviewed in the course of parliamentary discussions:

## 1. Qualifying expenses

The presentation does not define the qualifying expenses in detail. However, there is a caveat with regard to expenses from abroad. This caveat is to be substantiated in so far as it does not relate to R&D services, that are supplied for the purpose of an overarching R&D project abroad that is managed and controlled in Switzerland, or have been purchased from abroad. The same applies to other purchases of goods and services from abroad, which are



included in an R&D project in Switzerland. In our opinion, this would not be a breach of Art. 64 (1) of the Federal Constitution either.

*Requirement: R&D expenses from abroad are to be given preferential treatment if the management and control of the overarching R&D project are located in Switzerland.*

## **2. Choice of methods**

The Swiss Federal Council restricted itself to the system of multiple deductions in the presentation. Consequently, the option of accepting the needs of certain taxpayers and allowing the incentive measures to be treated differently in the accounts was taken from the cantons.

Given the fact that the introduction of corresponding incentives at federal level would

be difficult to enforce and would be associated with time-consuming changes to the law, we are of the opinion that implementation at cantonal level should be pursued at present. A rapid introduction of appropriate measures would be particularly desirable in view of international competition. Nevertheless, the absence of any opportunity for multiple deduction at federal level should be taken into account when setting the rate.

*Requirement: the cantons should be free to decide which method they adopt.*

## **3. Loss carried forward**

The presentation on June 5, 2015 omits any explicit comment as to whether the cantons will be free, in deviation from Art. 25 (2) of the Federal Act on the Harmonization of Direct Taxation at Cantonal and Communal Levels (StHG), to carry multiple expenses forward for longer periods. Clarification of this issue at the level of the StHG, granting cantons this leeway, would therefore be desirable to give the cantons legal certainty with regard to their own legislation.

In accordance with our opinion, it seems to make sense to incorporate the general seven year loss carry forward rule in the StHG for the cantonal multiple deductibility of R&D expenses as well. As part of the freedom granted to cantons, they should also be given the option of including longer loss carry forward periods in cantonal law.

*Requirement: there should be no time limit on carrying forward loss carryforwards in connection with privileged R&D expenses.*

## **4. Combination with patent box**

According to the federal government's presentation, patent box privileges on the one hand and the input incentive for R&D on

72% of the companies surveyed consider tax incentives for R&D to be important or very important when choosing a location.

the other hand cannot be combined, which is regrettable in as much as no direct incentives for new developments and enhancements are created within the patent box.

*Requirement: privileged deduction of R&D expenses should also be possible within the patent box.*

The cantons should use the freedom of action they will be given in the following areas, in particular:

### **1. Definition of qualifying R&D expenses**

The Swiss Federal Council has not expressed any views regarding a definition of privileged R&D expenses. It refers to the promotion of innovation<sup>3</sup> as such at various points in the announcement. Consequently, the cantons would be given scope not to be too restrictive in the definition of R&D with a view to promoting innovation and to invoke the Oslo Manual,<sup>4</sup> for instance. It should also be open to the cantons to give preferential treatment to overheads and financing costs that are indirectly attributable to R&D activities in addition to directly attributable costs (wage and ancillary wage costs, depreciation on capital goods, material, and infrastructure).

*Requirement: the cantons should exploit their freedom of action to come up with a broad definition of the scope of privileged R&D expenses.*

### **2. Amount of the multiple deduction**

No parameters regarding the amount of the multiple deduction were set in the presentation on June 5, 2015. Since it is only a cantonal incentive, the multiple deduction should be approximately twice as high as incentives offered by other countries. Cantonal tax rate reductions play a subordinate role, since the benefits of the multiple deduction would also be reduced accordingly.

We are therefore of the opinion that the cantons should be given the freedom to set the multiple deduction individually. Nevertheless, in the absence of a similar option at the level of direct federal taxes, the rate of deduction for the cantons should be specified by imposing a legal range.

*Requirement: taking account of the international benchmark, multiple deductibility*

*of between 160% and 200% seems advisable to be internationally competitive.*

### **3. Administrative hurdles**

More than 100% deductibility may not be made more difficult by unnecessary administrative hurdles.

*Requirement: a transparent, practicable model should be created to ensure successful implementation of tax incentives.*

Since the decision by the Swiss National Bank to abolish the cap on the franc, the Swiss economy and, in particular, manufacturing companies have been suffering from the strong Swiss franc. This has increased manufacturing costs and consequently also made the corresponding R&D costs more expensive, which in turn increases the risk for new investment. If companies therefore feel obliged to relocate their R&D activities abroad, there is a considerable risk that production facilities would also be withdrawn from Switzerland. Relocation of R&D as well as production abroad would put various jobs in Switzerland at risk.

The proposed incentive measures would increase Switzerland's attractiveness as a research location for foreign companies, which would in turn lead to more companies choosing Switzerland as a location and would consequently contribute to strengthening Switzerland's position as a location for innovation. Since tax incentives for R&D are being used by most OECD countries, these incentive measures can be considered as internationally acceptable. On the basis of the proposed measures, Switzerland can therefore continue to claim its place as an attractive business location in international tax competition and continue to attract experts and specialists from abroad, which would in turn increase the potential for innovation in Switzerland.



# Research and innovation in Switzerland

Even considered from a historical perspective, Switzerland is internationally competitive and successful in the area of research and innovation, which is why innovation can be regarded as a central source for economic growth and prosperity in Switzerland.

Internationally, Switzerland has the reputation – not unjustifiably – of being an expensive location. Consequently, the country has already had to concentrate on the development and manufacture of products and the provision of services with a high degree of added value in the past. Research and innovation therefore had to be in the foreground and should also be there in future. This is particularly obvious at times when the Swiss franc is strong.

Since Switzerland is too expensive as a manufacturing location for mass products, is consequently not competitive and hardly has any reserves of raw materials either, innovative stimuli for new products, processes and technologies are needed for Switzerland's success as a location for business.

Although Switzerland currently has a high potential for innovation, its success in the future is by no means assured, particularly taking account of the latest political developments. Switzerland is increasingly engaged in fierce international competition in the area of research. Innovation-promoting framework conditions are therefore necessary in order to preserve and improve Switzerland's innovation capacity and economic power. This has also been acknowledged by the legislator and the following is laid down explicitly in Article 64 of the federal constitution: "The Confederation shall promote scientific research and innovation." All possible instruments and incentives must and shall be considered for this purpose and implemented in a practicable manner. However, so far, Switzerland has not included tax incentives for R&D in its

national laws. As other jurisdictions show, these would, however, be a suitable means to strengthen innovation capacity in Switzerland in the long term. Tax incentives would firstly ease the tax burden on research companies in Switzerland and secondly prevent the migration of R&D activities abroad and encourage the establishment of new R&D activities in Switzerland.

## In facts and figures<sup>5</sup>

### Switzerland's strengths in innovation

Switzerland has a high level of innovation capacity measured by its total private R&D expenditure as a percentage of GDP. In 2012, private companies in Switzerland devoted CHF 13 billion to their own domestic, intramural R&D expenses<sup>6</sup> (or 2.2% of GDP, as it did in 2008). Switzerland is among the top countries (in sixth place, ahead of the USA and Germany, as it was in 2008).

According to the 2014 Global Innovation Index,<sup>7</sup> Switzerland is actually the most innovative country in the world. On the one hand, the Global Innovation Index takes into account the framework conditions and on the other hand it considers the actual innovation accomplishments for each country. Here, Switzerland achieved the best result in the individual criterion "Innovation Output Sub-Index"<sup>8</sup> and was also able to generate strong results throughout all other categories.

### (Hidden) developments in the area of research and development

The strong position mentioned above may be attributed, above all, to the large multinational companies engaged in particularly research-intensive activities domiciled in Switzerland. An investigation of companies' research and development expenses from a purely fiscal



viewpoint shows a different picture for Swiss SMEs:<sup>9</sup> only 18% of total intramural R&D expenditure is spent by them, although these constitute 73% of companies with R&D activities in Switzerland.

This shows the limits of this tax-related examination: in many SMEs, research and development is an integral part of standard business processes. However, this incremental development is not recorded via R&D accounts.

Large companies' R&D expenditure has been falling continuously since 2004 to stand at 82% of intramural R&D expenditure in Switzerland. By contrast, SMEs increased investment steadily in the period between 2004 and 2012, reaching a total of CHF 2.35 billion in 2012. This increase is double that of Swiss companies overall.<sup>10</sup>

This clearly shows that innovation is of central importance SMEs in particular, and they invest accordingly. However, the desire to invest is restricted by very high costs and limited financing options.

#### Financing R&D in Switzerland

In 2012, 79% of R&D projects (intramural R&D expenditure) across all companies were financed internally, which implies a reduction compared with 2008 of 4% in relation to total R&D expenditure (2008: 87%). Companies are increasingly using foreign funds to finance their R&D. Compared with 2008, the proportion of foreign finance increased from 7% to 15% in 2013. The remaining 6% of investment was provided by the public sector or other institutions within Switzerland. Financing by the public sector has fallen sharply in recent years and came to CHF 106 million in 2012 (CHF 198 million in 2008).<sup>11</sup>

In view of Switzerland's substantial costs, companies should aim to finance as much as

possible internally, as the more costs that are incurred for external funding, the higher the total R&D expenditure will be and this will increase the sales prices of the resulting products. This is why SMEs in particular must achieve a high level of internal financing to remain competitive.

As mentioned above, the public sector only invested CHF 106 million in research projects in 2012. This equates to a share of only 1%.<sup>12</sup> The Commission for Technology and Innovation (CTI) plays an important role as a promoter of innovation on behalf of the federal government. It is comprised of 59 qualified members from business, research and academia.<sup>13</sup> In 2010, 343 projects were supported, triggering R&D costs of approx. CHF 235 million, to which the federal government contributed approx. CHF 100 million.<sup>14</sup> For the period from 2008 to 2011, the overall CTI budget was approx. CHF 532 million.<sup>15</sup> Preconditions to obtain financial assistance are that the company collaborates with a recognized research institution and that the business partner in principle bears at least 50% of the project costs.

#### Increasing international competition

Switzerland faces ever-increasing international competition for R&D functions and production locations of internationally flexible companies. This contributes to the fact that large Swiss companies today increasingly have their research carried out by branches or subsidiaries abroad. The intramural R&D activities of Swiss companies abroad in 2012 totalled CHF 15 billion, in contrast to only CHF 12.8 billion in Switzerland.<sup>16</sup> Since 1992, more has been invested in intramural R&D abroad than in Switzerland. R&D is thus following the trend towards globalization and is becoming more and more international. There are various reasons for the growing R&D activities abroad although costs as well as access to markets represent very important factors.

Although more was invested in R&D abroad than in Swiss R&D in the past, there are signs of the trend in intramural R&D activities being reversed in 2012 compared with 2008. Expenditure abroad decreased by 5% in the relevant period, while intramural R&D expenditure in Switzerland increased by 7%.<sup>17</sup> To a certain extent this is also linked to the fact that extramural R&D expenditure abroad increased by 3% in 2012 compared with 2008.

#### **Political developments in Switzerland: mass immigration initiative**

The Swiss people decided by referendum on February 9, 2014 to accept the popular initiative of February 14, 2012 "Against Mass Immigration", although the Swiss Federal Council had recommended rejecting the initiative.<sup>18</sup> The initiative contains a fundamental realignment of Swiss immigration policy based on comprehensive regulation, although the proposed solution is not compatible with the agreement between Switzerland and the European Union (EU) and the European Free Trade Association (EFTA).

In the opinion of the Swiss Federal Council and numerous representatives of industry, acceptance of this initiative will damage the Swiss economy. Accordingly, it questions the bilateral course that had previously been adopted. Even if the precise implementation of the initiative and the significance of the treaty between Switzerland and the EU and EFTA being canceled are not foreseeable at present, the indications are that the consequences for the national economy would be grave. The opening of the Swiss employment market to EU/EFTA states on the basis of the freedom of movement contained in the agreements has facilitated above-average growth in economic output and employment in Switzerland in recent years. Because of the attractive Swiss employment market and the simple registration procedure within the framework of the Agreement on the Free Movement of Persons, Switzerland can attract foreign experts in addition to its own well-educated workforce. For Switzerland as a location for business, access to potential European skilled labor is of very particular importance.

Swiss companies that have focused their activities or part thereof on R&D are reliant on access to foreign specialists and their technical knowledge. Depending on the

actual implementation of the initiative, the recruitment of skilled labor could become significantly more difficult in a system where immigration is subject to more rigorous quotas. Switzerland would become far less attractive as a location for R&D. A withdrawal by Switzerland based on the mass immigration initiative would also put the local location for R&D at a significant disadvantage with regard to the Horizon 2020 research program.

#### **Radical change with the Corporate Tax Reform III (UStR III)**

For some time now the political discussion has shown interest in Switzerland's attractiveness from a tax perspective in relation to private R&D activities and the risk that research activities are being relocated abroad.<sup>19</sup> In recent years, the EU and the OECD have also increased pressure on the preferential tax regime offered by Switzerland. The federal government and the cantons have reacted to this and devised appropriate measures to replace certain tax regimes. Taking account of other international restrictions such as BEPS and tax transparency, the Swiss Federal Council published the report entitled "Measures to Strengthen the Competitiveness of Switzerland as a Business Location (Corporate Tax Reform III)" in December 2013. After the draft law had gone through the consultation process, the Swiss Federal Council submitted the announcement on the "Federal Act on Tax-Related Measures to Strengthen the Competitiveness of Switzerland as a Business Location" to the Swiss Parliament on June 5, 2015. In this act, the Swiss Federal Council proposes the abolition of cantonal tax privileges on the one hand and on the other hand the introduction of a patent box, the reduction of cantonal capital taxes, the disclosure of hidden reserves ("step-up"), the abolition of the issue tax and the increase in the partial taxation ratio. In addition to the measures mentioned above, the Swiss Federal Council wishes to give cantons the option of envisaging increased deductions for research and development expenditure. Both the patent box and the increase in the deductibility of R&D expenditure may offer a tax incentive for R&D in Switzerland.

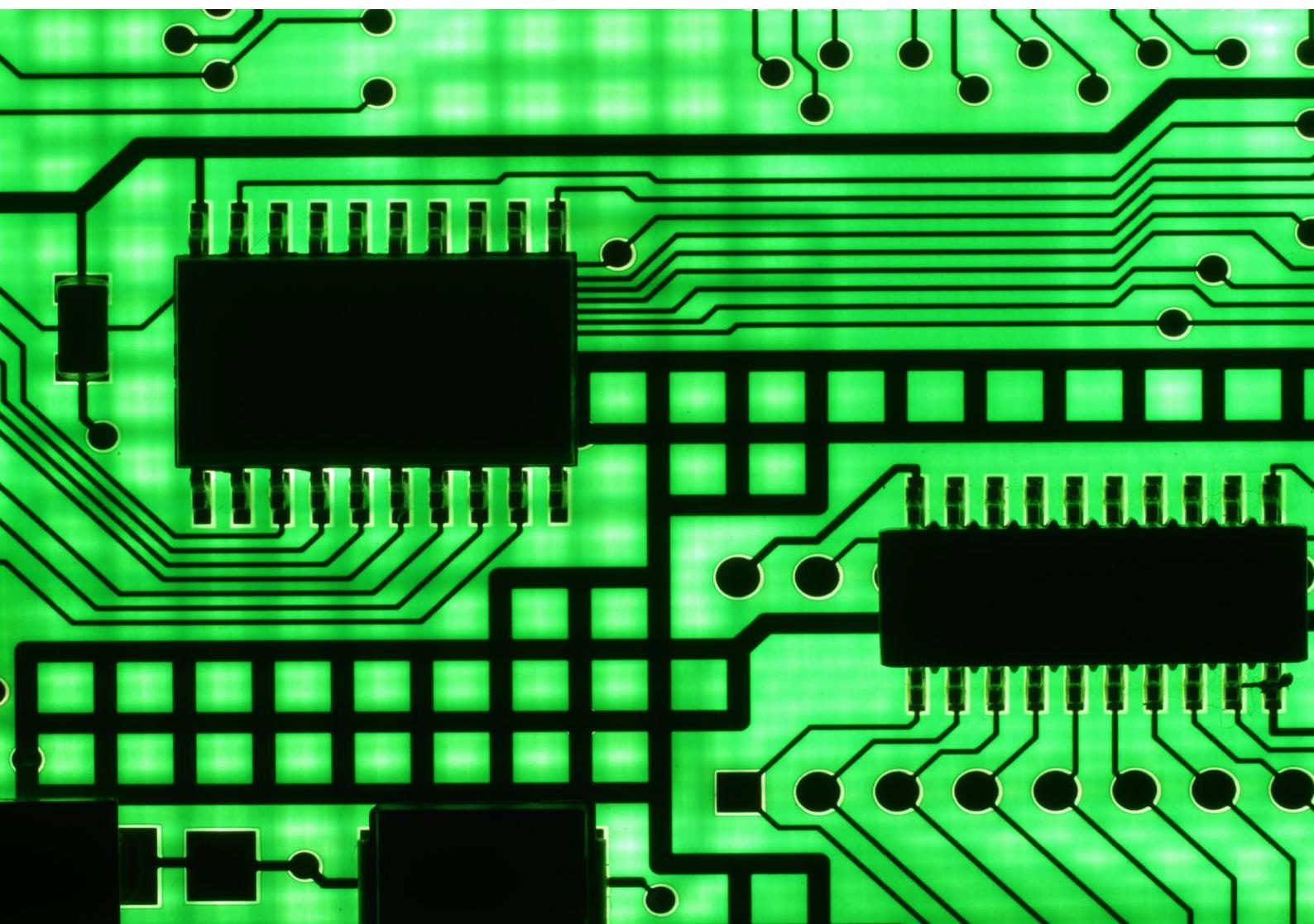
#### **Significance of the proposed incentive systems**

Switzerland is already a highly attractive location. It aims to have a very innovative

economy, though it is dominated by large companies that conduct more and more of their R&D activities abroad. Combined with the tremendous cost pressures on R&D, especially for SMEs, this all forces Switzerland to undertake measures to further improve its standing as a location, or at least – given the abolition of cantonal tax privileges – to maintain its current level of attractiveness. There are various instruments and measures available to the legislator for this purpose. In comparison with many other countries<sup>20</sup> that directly compete with Switzerland, it is peculiar that Switzerland has up until now not implemented R&D tax incentives, although other countries have long implemented such incentive measures. This results in a significant disadvantage for Switzerland as a location for R&D activities compared with its international competitors. Through the proposed introduction of tax incentives for R&D and the patent box, tax

driven incentives would be created to maintain or increase R&D in Switzerland as well as to attract additional activities to Switzerland from abroad.<sup>21</sup>

In the past, other tax incentives were common in Switzerland (principal companies, mixed companies etc.), as in other countries (such as BENELUX, Ireland, in typical offshore locations etc.), which is why the question of additional incentives did not arise. Because of various national developments and the discussions about BEPS at OECD level, these typical traditional tax structures will (soon) be consigned to history. This will lead to a consolidation of the functions exercised within groups, especially in research and development. Input incentives for R&D contribute to R&D functions being combined, whereby the nexus concept (the connection between actual R&D activity and profit allocation in the group) is taken into account.



# Types of input tax incentives for R&D

R&D tax incentives can generally either be structured as so-called "input" or "output" incentives. While "input" incentives influence the cost side of R&D, e.g. R&D costs being more than 100% deductible for tax purposes or R&D tax credits, "output" incentives give preferential treatment to income from intellectual property rights by subjecting them to lower taxation. For example, to improve its attractiveness as a location from a tax perspective, as of January 1, 2011, the Canton of Nidwalden introduced the IP box system and is taxing income from intellectual property at a lower rate than regular income.

Both elements are of central importance for Switzerland to remain a research location of choice for multinationals, and specifically to strengthen and secure the current and future innovation capacity of Switzerland's economic backbone, the SMEs. This has also been recognized by the Swiss Federal Council and both the patent box ("output incentive") and the voluntary introduction of excessive deductibility of R&D expenses ("input incentive") at cantonal level have been proposed to the Swiss Parliament.

In the recent past, however, the preconditions for preferential taxation within the meaning of the patent box have become more stringent. To ensure that the Swiss patent box is also acceptable internationally, it must, in principle, be developed in accordance with the internationally recognized forms of taxing licenses. Given current developments in the global tax landscape, it is therefore possible that the patent box might be further restricted in future or classified as detrimental in its entirety. Consequently, discussions are increasingly focused on input incentives to promote R&D from a tax perspective. This is why this section also focuses on input incentives.

## Basic types

The most common measures at present relate either to reducing income tax or the cost of R&D personnel. Income tax is reduced by deducting R&D expenses from the tax assessment basis by more than 100% ("super deduction") or from the tax liability ("tax credit"). However, R&D can also be promoted by a general reduction in the costs for R&D personnel. This is achieved, in particular, by reducing wage withholding tax and the social security charges owed.

### Tax-free amount (super deduction)

Tax-free amounts are applied to obtain a discount of more than 100% of the qualifying R&D costs. From a practical perspective, this is usually achieved by deducting these costs against tax more than once. The majority of multipliers in other jurisdictions are between 130% and 210%. This leads to the fact that these increased R&D expenses can be also claimed as expenses for tax purposes and reduce the taxable profit accordingly.

### Tax credit

Tax incentives to promote R&D may also be granted in the form of a tax credit. In this case, the qualifying part of R&D expenses is offset against the tax liability in principle. In the absence of a tax liability, the qualifying R&D expenditure can be refunded in cash. Although the relevant R&D costs are deducted from the tax liability, they also remain 100% deductible for the calculation of the taxable profit, if they are recorded as expenditure in the income statement (authoritative principle).

## Volume or growth incentives

Tax incentives to promote R&D may relate either to the total R&D expenses (volume incentives) or be restricted to the R&D expenses that were incurred in addition to earlier years (growth incentives).



## **Definition of qualifying R&D projects and R&D expenses**

### **Qualifying R&D**

There is no definition of the term R&D in either civil or tax law in most jurisdictions. Accordingly, most jurisdictions have been guided by the definition of R&D in the OECD's so-called Frascati Manual,<sup>22</sup> which defines R&D as follows: "Research and experimental development comprises all creative work, which was undertaken in a systematic manner to deepen understanding or obtain new insights. This includes knowledge about people, culture and society as well as the exploitation of knowledge for new applications. The term research and development encompasses three activities: basic research, applied research and experimental development." Given that the Frascati Manual does not relate to taxes but to country-specific R&D data collection, various countries do not follow the above definition entirely. The European Commission reacted accordingly and issued a joint framework for fiscal aid for research, development and

innovation to create a joint definition. This decree distinguishes between basic research, industrial research and experimental development. A definition of innovation can be found in the Oslo Manual, which describes innovation as the introduction of a new or substantially improved product (goods or services) or process as well as new marketing methods, new organizational methods for commercial activities, workplace organizations or foreign relations.<sup>23</sup>

### **Qualifying R&D expenditure**

As is the case with qualifying R&D activities, R&D expenses, which benefit from preferential tax treatment, are debatable in an international context. The personnel expenses of R&D personnel count as qualifying expenses in virtually all jurisdictions offering corresponding incentive systems. However, additional R&D-related expenses may also be taken into consideration in many countries. These include, for example, depreciation on capital goods, raw materials and supplies, financing costs, shares of overheads, costs for contract research and contract developments as well as collaborations.

**Input and output incentives are key components in ensuring that the results of successful R&D remain in Switzerland.**

# Tax incentives for R&D in other countries

Within the framework of the discussion in respect of the introduction of tax incentives for R&D, it makes sense to consider already established and innovative incentive measures in other countries. Therefore the tax incentive measures in countries which are deemed exemplary in terms of design,<sup>24</sup> for example, are presented in the form of an overview below.

The in-depth analysis of incentive measures in the individual countries on which this overview is based can be found in Appendix I. So an understanding of the effect and practicability of already existing models is an essential necessity for the detailed design of a practicable Swiss model.

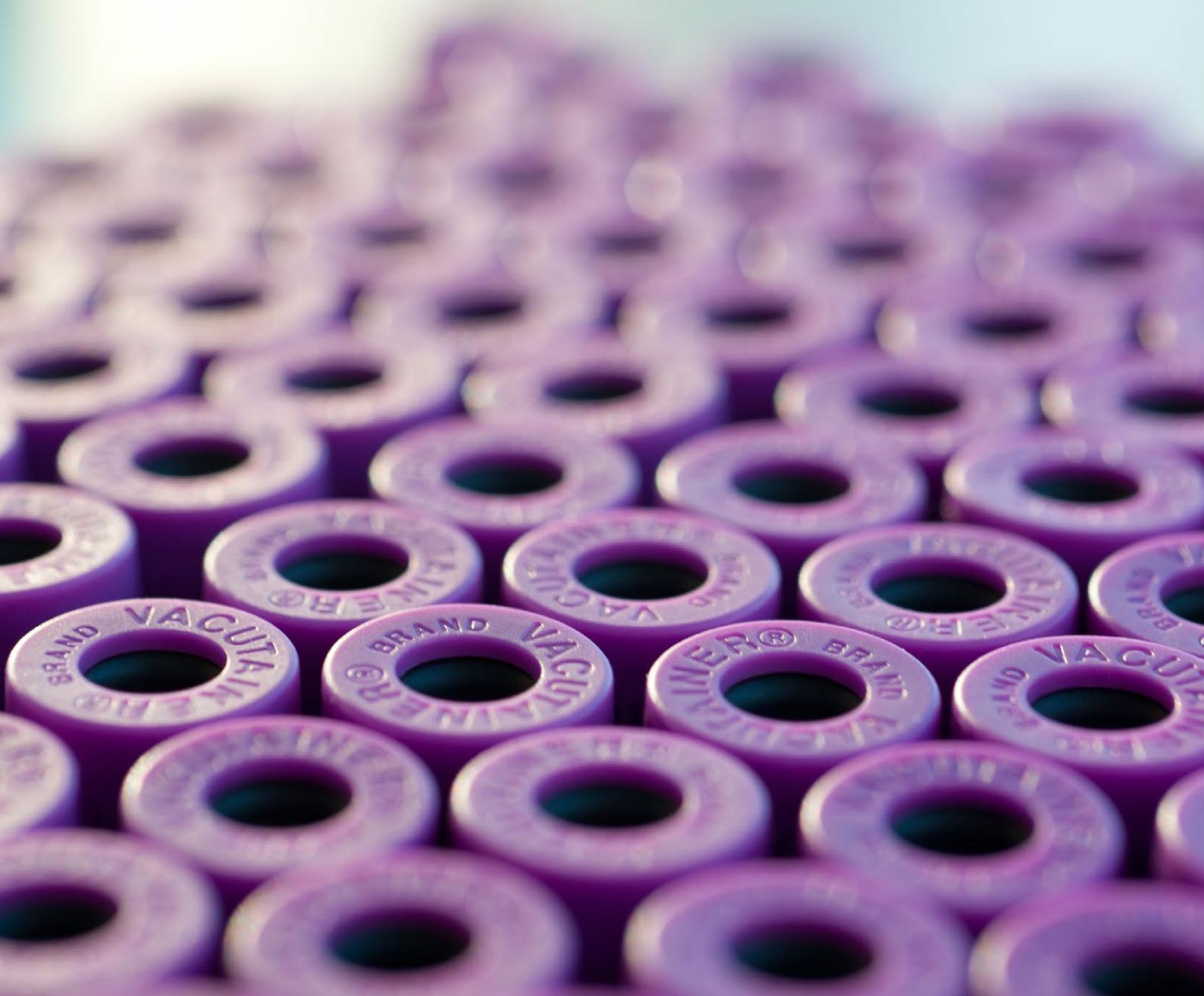


Country	General deductibility of R&D costs (100%)	Higher deductibility of R&D costs (>100%)	Tax credit	IP box	Additional tax incentives (e.g. accelerated depreciation, tax holiday)	Definition based on/ similar to* the one in the Frascati Manual
France	■		■	■	■	■
Spain	■		■	■	■	■
UK	■	■	■	■		■
Czech Republic	■	■			■	■
China	■	■			■	
India	■	■			■	■
Singapore	■	■			■	■
USA	■		■			■
Canada	■		■		■	■

\* Subject to minor country-specific adjustments.

# Survey

With regard to the Swiss Corporate Tax Reform III, any discussion about tax incentives for R&D should take into consideration the opinions of those companies which are directly affected as a result of their activity. Consequently KMPG has cooperated with the Swiss-American Chamber of Commerce in an online survey of numerous companies and conducted interviews with more than twenty representatives from companies which carry out R&D. Whilst the online survey's primary purpose is to sound out the current situation with regard to Swiss companies which carry out R&D, the object of the numerous interviews was to gain as complete an impression as possible of the views and opinions of R&D companies with regard to tax incentives for R&D. The results of the survey conducted



in English, German and French are reproduced in detail in Appendix II, with the number of interviews and survey responses not being statistically representative. It is nevertheless possible to discern certain trends.

The range of participants extended from micro-companies to international groups of companies. The majority operated in the fields of production and biological sciences (pharmaceutical industry, medtech industry, etc.).<sup>25</sup>

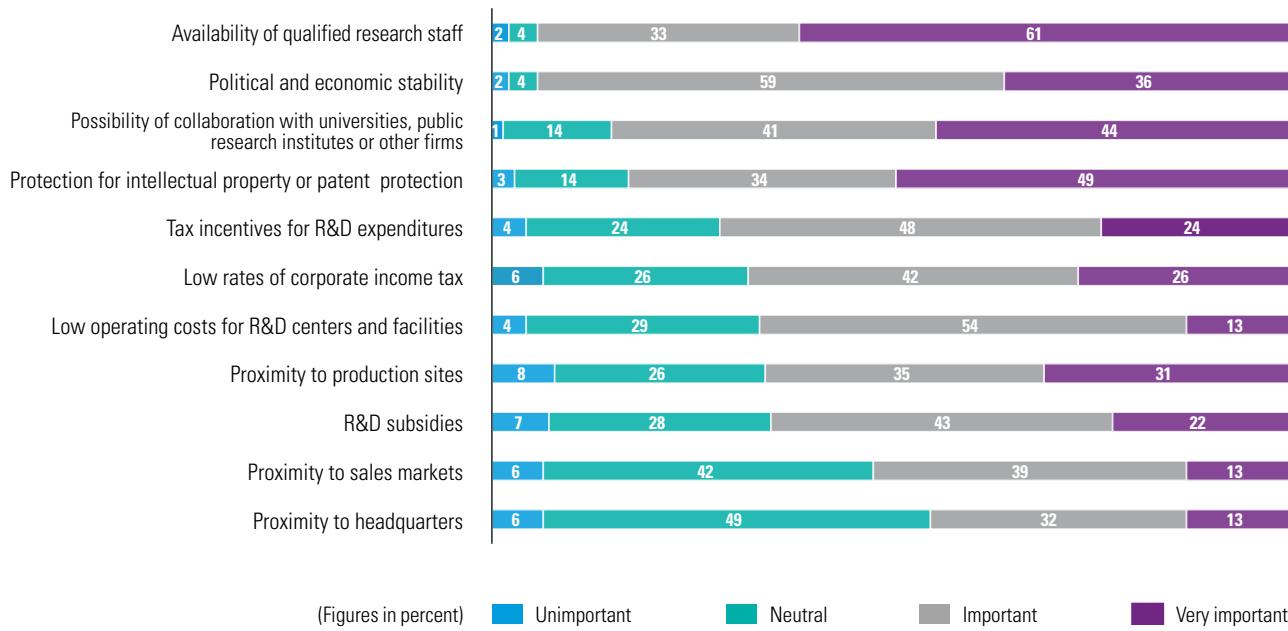
Although the majority of R&D companies surveyed still have their R&D facilities or parts thereof in Switzerland, the survey shows that when looking for new R&D locations, companies are increasingly extending their search beyond Switzerland. Sites in China, India and Brazil have become more important, in addition to the USA.

When selecting sites for R&D activities, 72% of companies surveyed mentioned tax incentives as being important or very important. Only the possibility of collaboration with universities and similar institutions, access to qualified research staff and political and economic stability were rated as more important, at 85%, 94% and 95% respectively. In view of this it is all the more important to exert a positive influence over those parameters that a country as small as Switzerland is able to influence itself, and which

also truly distinguish us from other countries. The uncertainty regarding the free movement of people emerges here as a clear negative criterion.

From practically all the interviews we received confirmation that any tax breaks are taken into consideration when choosing locations. Very often the tax department is specifically commissioned to estimate the tax break's impact, which is incorporated into budgeting for the R&D project. Just 12% of companies surveyed stated that a reduction of their R&D activity in Switzerland is scheduled within the next five years. Another 55% of companies surveyed were neutral about the question whether they were likely to expand or reduce their R&D activities in Switzerland in the next five years. It should be borne in mind, though, that R&D projects have a long-term horizon, i.e. often more than five years, which is why greater attention should be paid to trends than just the willingness to remain at the same research site for the next five years.

It seems especially important to us that a good 95% of the companies which plan to reduce their R&D activity in Switzerland and 70% of the companies that were neutral about this question stated that the introduction of tax incentives for R&D in Switzerland influenced this decision.



# Possible form of input incentives for R&D

## Proposal by the Federal Council for parliamentary discussion (UStR III)

According to the dispatch relating to Corporate Tax Reform III (UStR III) published on June 5, 2015, the Federal Council is proposing to give the cantons the option, on a voluntary basis, of making provision for increased deductions for R&D expenditure at cantonal level. In the absence of measures at federal level, the cantons have relative freedom to structure this provision. The de facto introduction of measures allows the cantons to proceed in accordance with their needs. Whilst for some cantons the primary focus is destination, for others it is the connection between the patent box and input promotion which is deemed to be important. In order to give the cantons the maximum possible scope for decisions, the Federal Council is proposing that it should merely define basic parameters, which would slightly limit the cantons' structuring of the input promotion:

- **Customer:** The tax incentives should start with the customer, because especially where basic research activities are concerned, these often include universities. In the event of collaboration with universities and similar institutions, the customer's incentive would not make an impact.
- **Territorialism:** Only R&D expenditure incurred in Switzerland can benefit from a tax break.
- **Loss situation:** The system of incentives developed by the cantons must not make provision for payment in the event of a loss, in order to avoid requalification as subsidies.
- **Multiple deductibility:** The cantonal incentive systems must be structured as increased deductibility to ensure that the measures depend on the threshold tax rate.

## Possible structure of input incentives to promote R&D

An R&D incentive model must specifically take into account that small, mid-size and big companies contribute to Swiss value creation. Of course the amount contributed by small and mid-size companies does not match the budget of large enterprises. Nevertheless, particularly innovative technologies and product developments repeatedly emerge from the SME sector. It is therefore also justified if it is specifically innovative efforts by SMEs that are appropriately incentivized.

### Definition of qualifying R&D

The key point connected with the introduction of tax measures is outlining the qualifying R&D. As already mentioned, various jurisdictions follow the guidance in the Frascati Manual. There are also other policies that define R&D, according to which R&D includes creative work processes performed systematically in order to increase knowledge, including knowledge about mankind, culture and society, and its use for the discovery of new applications. This definition includes basic research, applied research, and experimental development. Due to the international pressure from the Organisation for Economic Cooperation and Development and the European Union which Switzerland has experienced in the past regarding the tax landscape, it would be a good idea for Switzerland to link its definition of R&D to an existing policy.

The guidance in the Frascati Manual falls short in that the manual does not promote every form of innovation. Innovations in the area of the service or consumer goods industries in particular can only be covered by the Frascati Manual to a limited extent.

Extension of the definition with reference to the Oslo Manual would allow the cantons greater



scope to create appropriate incentives for specific industries that do not carry out R&D in the strictest sense.

It can basically be said that the only R&D which can benefit from incentives is that which is verifiable and describable. It can, however, also be inferred from this that the companies in question will have to describe and document their R&D activities when required to do so.

The fundamental intention of introducing R&D tax incentives is to promote Switzerland as a place of innovation, and consequently to secure existing jobs and create new jobs. To achieve this, only those R&D activities which are carried out in Switzerland should enjoy tax incentives. Conversely, this means that companies whose registered office or actual administration is based in Switzerland, but which only maintain R&D sites abroad, would be taxed as before and accordingly would not be able to benefit from the input incentives.

#### Promotion of volume

As previously explained, it is possible to make a distinction between volume-based and growth-based incentives. Whilst volume-based incentives favor the level of R&D expenditure, growth-based incentives only promote the change in R&D expenditure in relation to the previous year. Only volume incentives are suitable, however, for retaining existing R&D activities in a country. From a purely practical point of view, growth incentives have various administrative disadvantages for this.

It is therefore necessary to carry out a comparison of current R&D costs with those for previous years. Furthermore, growth incentives are disadvantageous for large companies with high R&D costs and can result in intermittent R&D activities. Volume incentives are therefore preferable.

#### Qualifying expenditure

It must be possible for other R&D-related expenses to qualify in addition to pure personnel expenses for researchers and specialists. Accordingly, qualifying personnel expenditure should include bonuses, gratuities and profit-share schemes, and social insurance, in addition to the wage. As R&D staff first have to be recruited before the actual research activity can commence, training, recruitment and information costs connected with the employment of specialists should also be covered. R&D also requires investment of capital goods (write-downs), as well as the use of raw materials, consumables, operating materials and supplies, so these costs too are regarded as qualifying R&D costs. Where SMEs are concerned in particular, financing R&D can be difficult and so often requires external funds, which is why proportional financing costs should also be regarded as qualifying. Like other business units, R&D departments also require certain resources and administrative support, such as premises, payroll accounting, etc. Proportional joint costs should therefore also qualify for a tax incentive as R&D expenditure.

In practice, R&D is very often assigned to third parties as a research contract, which is why the cost of R&D projects which are fully or partly subcontracted by a company to third parties or group companies for payment should also qualify for incentives. At the moment the Federal Council wants to limit this, in that R&D projects will only benefit if the company to which the R&D is subcontracted carries out the R&D in Switzerland. Furthermore, in the dispatch of June 5, 2015, the Federal Council made it clear that the customers must benefit from a tax rebate and not the contractor. From this it may be concluded that even the Federal Council regards research contracts as qualifying R&D and would like to see them receive privileged tax treatment.

It seems economically proper to grant the customer the tax break. On the one hand the customer bears the financial risk in the event of the research contract being fruitless. On the other, the result of the research contract becomes the customer's property. It is not the contractor who retains title to the intellectual property, although the contractor brings about the result. The Federal Council's restriction goes too far with regard to the purchase of non-domestic R&D services. For various reasons (proximity to production sites and markets, costs, specific know-how, etc.), nowadays certain R&D contracts are awarded to foreign companies/institutions. These contracts/costs form integral parts of a superordinate R&D project conducted in Switzerland. Therefore non-domestic R&D services in particular, which are purchased for the purpose of R&D activities in Switzerland, should also be incentivized if these direct costs are connected with the said R&D activity. Discrimination against these services will hardly lead to these services continuing to be purchased in Switzerland; it is more likely that superordinate R&D projects could also be transferred abroad.

#### Choice of method

Input incentives can either be structured as a deduction from the basis for calculation (tax-free amount) or as a deduction from tax liability (tax credit). During a qualitative interview with 25 selected participants in the R&D study, a good half of those interviewed were neutral and around a quarter preferred the multiple deduction method or a tax-free amount, the other quarter a tax credit. The latter companies in particular need the tax credit to not affect the actual rate of tax and for it to also be possible to show the reduction in R&D expenditure from an accounting point of view (above the line). This is generally the case when the tax credit can be qualified as a state subsidy. The EU Best Practice proposal basically prefers the tax credit. In the dispatch of June 5, 2015, however, the Federal Council proposed to the cantons a deduction from the basis for assessment through multiple deductibility of R&D expenditure as a parameter. By considering an increased deduction from the basis for taxation instead of a tax credit, this basically ensures that the companies can only benefit from tax relief if they make actual profits that are taxable in Switzerland.

From an economic point of view, both methods basically produce the same result. A tax

credit with an "above the line" effect may be advantageous for stock-exchange listed companies from a reporting viewpoint. From a real political point of view this method harbors the disadvantage that in accounting terms it is treated as exactly what it should not be – namely a subsidy. This is why the route proposed by the Federal Council, promotion of Switzerland as an R&D location through multiple deductions and/or tax allowances, is not unreasonable, even if there are good arguments for a different model.

#### Level of multiple deductions

The international benchmarks, which at present vary between 130% and 150%, should be taken as a reference point for the level of a multiple deduction. In the process, care should be taken that in each case these rates relate to the total tax expenditure. As the Federal Council's bill is currently limited to cantonal incentives, the rates should be correspondingly higher in order to achieve a comparable effect. A multiple deduction of between 160% and 200% therefore seems entirely fitting. Within this range, the cantons should have appropriate scope, depending on the rate of cantonal tax following introduction of the tax reform and other incentives which also come under consideration.

Small and medium-sized enterprises make a massive contribution to innovation in Switzerland, but generally have problems

The aim of introducing tax incentives for R&D is to promote Switzerland as a center of innovation.

financing their R&D. A bigger tax incentive should therefore apply to SMEs. Increased deductibility in excess of 200% for annual R&D expenditure of a maximum of CHF 10 million would be desirable for small and medium-sized enterprises.

The normal rate of deduction should be authoritative for expenditure exceeding this limit. The definition of SMEs should therefore follow that of the European Commission.<sup>26</sup>

#### Interdependence on the patent box

As part of the Corporate Tax Reform III, the Federal Council is proposing the introduction of a cantonal patent box (output incentive). Due to international developments, it is to be feared that the scope of the patent box's applicability is more likely to be subject to additional restrictions than expanded. Certain revenue connected with incentivized R&D expenditure would still be subject to an additional tax incentive. Taxpayers and tax authorities should bear in mind the practicability in addition to the attractiveness of the incentive to R&D work.<sup>27</sup> In the bill of June 5, 2015, the Federal Council opposed double tax breaks, which is regrettable in that the patent box has created no direct incentives for new and further developments.<sup>28</sup>

#### Treatment of losses

According to the Federal Council draft bill, multiple deductibility of R&D expenditure only constitutes a tax incentive if companies report

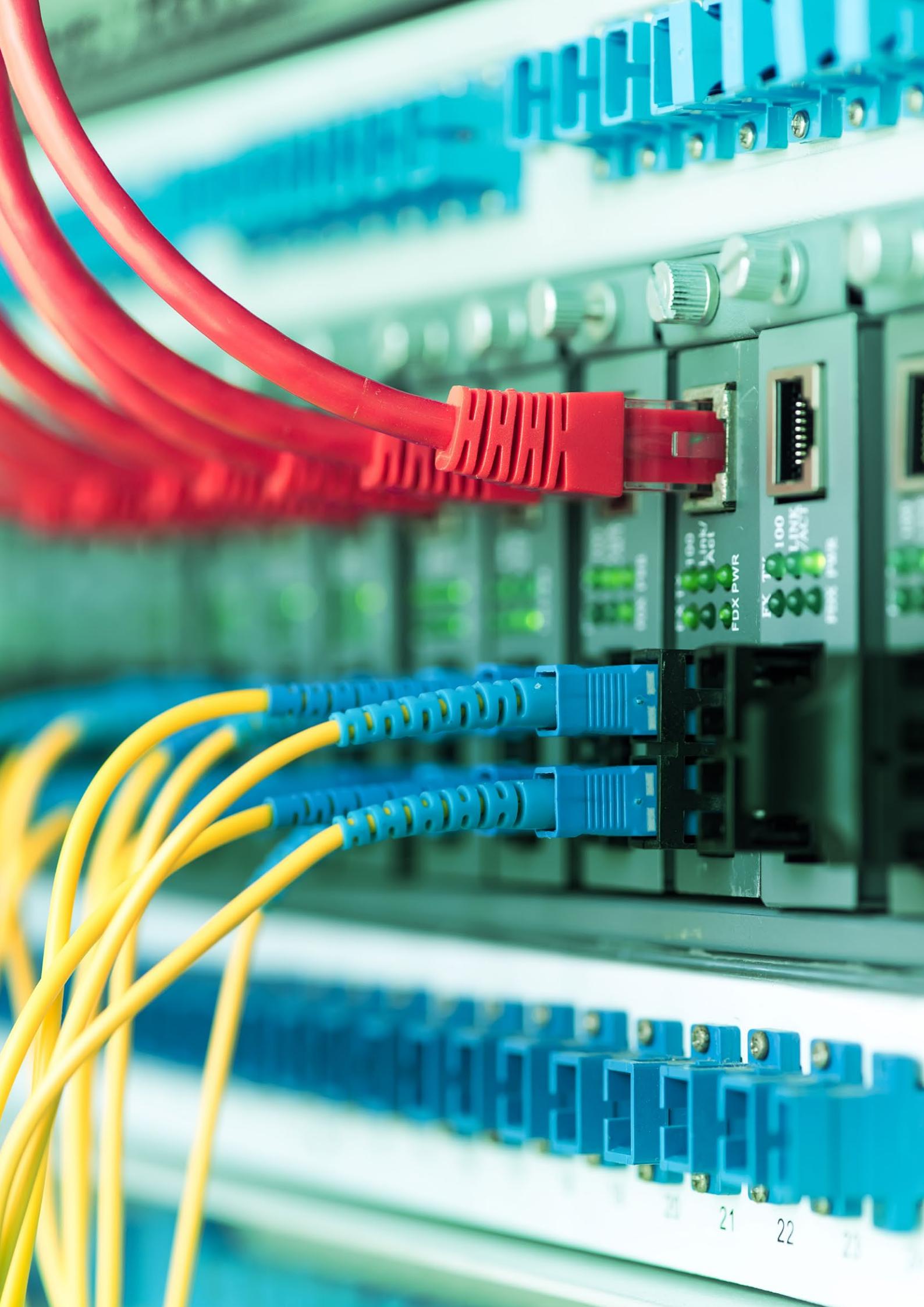
tax gains. In other words, the Federal Council has clearly rejected payments for losses, as this would equate to a subsidy.<sup>29</sup> The incentive then ceases to be effective, in particular if companies invest in R&D over an extended period, so that the possible profit only accrues slowly after several years, without it being possible to offset initial investments against taxable gains in the future. This is not untypical of many industries and applies more particularly to new companies, as typically these do not have other sources of income that they could offset against (multiple) expenditures.

The draft bill of June 5, 2015 does not explicitly state whether, notwithstanding Art. 25 (2) of the Federal Law on Tax Harmonization (StHG), the cantons will be free to carry forward multiple expenditures for longer. Corresponding clarification from the StHG, which grants the cantons this scope, would therefore be desirable.

#### Thresholds

There should be no definition of minimum or maximum amounts. The incentive should basically exist for all industries and sizes of companies. In particular, it does not make sense to define maximum amounts in order to limit the fiscal risks. This places large companies, which proportionally contribute more to innovation and accordingly generate jobs, at a disadvantage. This should be avoided on grounds of international competitiveness.





# Appendix I: R&D tax incentives in other countries

The individual tax incentive measures of the countries shown in the overview are explained in detail below.

## France

### Overview

France started granting tax credits for R&D activities carried out by businesses back in 1983 when the Crédit d'Impôt Recherche (CIR) was introduced. This was comprehensively revised in 2008 and supplemented by the Crédit d'Impôt Innovation (CII) in 2013. In addition, a special tax status for young R&D companies (Jeunes Entreprises Innovantes or JEIs) was introduced in 2005. France also has a patent box regime.

### Type of R&D tax incentive

#### Input-based tax incentives (CIR and CII)

In France, R&D expenses are deductible in the same year in which they are incurred. In addition, companies in France can claim a credit of 30% on the first EUR 100 million and a credit of 5% on qualifying R&D expenses beyond this. This volume-based tax credit is set off against the corporate profit tax for the corresponding year and the next three years. If it has not been possible to set off the whole tax credit by the end of that period, the outstanding amount will be refunded to the company (in certain cases, the tax credit not set off may even be refunded earlier). CII also gives SMEs (companies with fewer than 250 employees and a turnover of less than EUR 50 million) the option to claim a tax credit of 20% for downstream R&D activities such as the development of prototypes and the performance of pilot studies (which in principle

are not rated as qualifying R&D expenses). However, this can only be applied to expenses up to EUR 400,000.

#### Output-based tax incentives (patent box)

Through the patent box regime, licensing revenue or revenue from the sale of patents by a French company is taxed at a reduced tax rate of 15% provided that certain preconditions are fulfilled (cf. below).

#### Other tax incentives

The tax status for young R&D companies (JEIs) allows complete exemption from corporate profit tax in the first year and exemption from half the corporate profit tax in the second year. In addition, the company is also exempted from a variety of other taxes as well as from social security contributions.

In France, there is also the option to use an accelerated write-off for plant and equipment used for R&D activities. The coefficients are 1.5 to 2.5 depending on the customary amortization period for the relevant equipment.

### Qualifying R&D expenses/activities

#### General

France's definition of qualifying R&D expenses is guided by the Frascati Manual of the OECD. Based on that definition, qualifying expenses include the following:

- personnel expenditure relating to R&D personnel;
- depreciation expense on plants and equipment which are used for R&D in France;
- costs relating to the maintenance and development of patents;
- expenses relating to the monitoring of technical developments;

- administrative and overhead costs which correspond to 50% of the personnel expenditure relating to R&D personnel and 75% of the depreciation expense on assets which are used in France for R&D.

In addition, expenses relating to outsourced R&D activities can be deducted if the contractual partner holds a certificate of recognition issued by the French Ministry of Research. However, since 2011, such expenses only still qualify insofar as they correspond to three times the qualifying R&D expenses of the outsourcing company or else achieve the amount of EUR 10 million or EUR 2 million (if the companies are affiliated). The relevant R&D activity must always be carried out in an EU member state. The option to claim expenses as qualifying R&D expenses is not dependent on either the industry or the type of company.

#### Preconditions for the application of the patent box regime

The application of the reduced rate of tax relates to revenue generated in connection with patents, patentable investments or the production process required for the development of patents. In addition, the patent or the patentable investment must be capitalizable and must have been owned for at least two

years (the minimum period does not apply if the patent or the patentable investment has arisen through the company's own R&D activities).

#### Additional preconditions for JEIs

In order to be granted the status of a young R&D company, the following preconditions must also be fulfilled:

- the company must not be more than 8 years old;
- it must be a small or medium-sized enterprise as defined by the European Commission (fewer than 250 employees and a turnover of less than EUR 50 million);
- qualifying R&D expenses must account for at least 15% of the total expenses;
- the company must be independent or R&D must not be carried out on behalf of other companies.

## United Kingdom

#### Overview

The United Kingdom offers various types of R&D tax incentives. There is the option to



deduct certain R&D expenses at a higher rate on the one hand, while in April 2013, both a tax credit system and a patent box regime were introduced on the other.

### Type of R&D tax incentive

#### Input-based tax incentives

The scale of deductibility at a higher rate for qualifying R&D expenses depends on the size of the company in question. For R&D purposes, the UK defines SMEs as companies with fewer than 500 employees and either a turnover of less than EUR 100 million or a balance sheet not exceeding EUR 86 million. These companies can deduct qualifying R&D expenses at a rate of 230% (from April 2015; previously 225%). Companies which do not fall into this category (i.e. large companies) can deduct their qualifying R&D expenses at a rate of 130%.

Since 2013, large companies have also been able to irrevocably waive the option to deduct those expenses at a higher rate and to receive a tax credit in the amount of 11 % of the qualifying R&D expenses instead. In particular, it should be noted that this tax credit is entered in the profit and loss statement before tax is

actually calculated ("above the line"). From 2016, this system will completely replace the option for large companies to deduct expenses at a higher rate.

Both SMEs and large companies can set off unused incentives (for example due to a loss-making situation) against subsequent years without any limits being imposed. Small and medium-sized enterprises in loss-making situations also have the option to receive an effective cash refund in the amount of 32.63% of the qualifying R&D expenses. Under the new tax credit system, large companies can also claim a cash refund under certain circumstances.

#### Output-based tax incentives

The new patent box regime which was introduced recently allows a reduced tax rate of 10% on revenue generated after March 2013 relating to intangible assets

### Qualifying R&D expenses/activities

In the United Kingdom, the term "R&D" is understood to refer to projects directed towards scientific or technological progress which aim to achieve that progress either directly or indirectly.



Based on that definition, qualifying expenses include the following:

- personnel expenditure relating to persons who are directly involved in R&D activities;
- material expenditure incurred directly in connection with R&D activities;
- payments to participants in scientific trials;
- overhead costs which are directly linked to R&D activities.

Small and medium-sized enterprises can also claim 65% of the expenses incurred in connection with outsourced R&D activities. Large companies on the other hand can only claim those expenses which are incurred as a result of collaboration with public research institutes or suchlike. In general, R&D activities carried out in other countries only then qualify if the activities are supervised by a domestically owned company.

However, if a large company carries out R&D activities for another company on a contractual basis, it can claim the associated expenses itself unless the other company is subject to the fiscal jurisdiction of the United Kingdom. It should be noted here that SMEs cannot use their size-related incentives if R&D activities are carried out for another company on a contractual basis.

## Canada

### Overview

Canada was one of the first countries to introduce a tax credit model, with its "Scientific Research and Experimental Development" (SR&ED) program. Since then, the program has been revised several times and is deemed exemplary by the European Commission. Besides this tax credit model, there is also the option to use an accelerated write-off for certain R&D assets.

### Type of R&D tax incentive

#### Input-based tax incentives (SR&ED)

At the federal level, Canada grants a non-refundable tax credit of 15% on qualifying R&D expenses. In addition, so-called "small Canadian-controlled private corporations

(CCPCs)" have the option to receive a (partially) refundable tax credit of 35% on R&D expenses up to a maximum of CAD 3 million per annum. Unused tax credits can be set off against the next 20 years as well as the previous three years.

At the provincial level, (partially) refundable tax credits can once again be claimed of 4.5% up to 37.5% of the qualifying R&D expenses.

Specific tax credits are granted for individual sectors (e.g. IT, video games and media) at both the federal level and the provincial level.

#### Other tax incentives

Since 2014, an immediate write-off can no longer be used for qualifying R&D assets. In spite of this, there is still the option to use an accelerated write-off for some of these assets.

### Qualifying R&D expenses/activities

In principle, the definition of qualifying R&D expenses is broad and based on the Frascati Manual. Nevertheless, it should be noted that R&D expenditure will only then be regarded as qualifying if it is incurred within Canada.

Based on the Frascati Manual, qualifying expenses include the following:

- personnel expenditure relating to R&D personnel;
- expenses relating to R&D equipment;
- material expenditure;
- payments relating to R&D at universities and similar institutions;
- 80% of the outsourced R&D expenses whereby a "double dip" is not possible;
- a share of the overhead costs.

## Spain

### Overview

Spain's R&D tax incentive system has also been deemed exemplary by the European Commission. Besides a variety of tax credits, Spain also has a patent box regime. Spain recently expanded its tax credit system by adding the option to carry forward unused tax credit to subsequent years or even to receive a refund.

## Type of R&D tax incentive

### Input-based tax incentives (tax credit system)

Spain has a variety of different tax incentives in the form of the tax credit:

- First of all, a company carrying out R&D activities receives a tax credit at a rate of 25% (35% from 2016) of the qualifying R&D expenses incurred in the same year. If the R&D expenses from one year exceed the annual average for the previous two years, an additional tax credit of 42% can be claimed for the share exceeding the average R&D expenses.
- There is also the option to receive a tax credit at a rate of 17% of the personnel costs relating to research personnel involved exclusively in carrying out qualifying R&D activities.
- For technological innovations of already existing products, a tax credit in the amount of 12% of the expenses relating to these innovations can also be claimed.
- In addition, there is the option to claim a tax credit at a rate of 8% of the investment made in tangible and intangible assets used exclusively for qualifying R&D activities.

Certain upper limits apply within the framework of this variety of tax credits. If the qualifying R&D expenses exceed 10% of the tax owed (after the deduction of tax credits), the tax credits can be set off against a maximum of 50% (60% from 2016) of the tax owed (before the deduction of tax credits). If this 10% limit is not reached, the tax credits can be set off against a maximum of 25% (35% from 2016) of the tax owed (before the deduction of tax credits).

Since 2013, the option to exceed the above-mentioned upper limits has also been provided if certain preconditions are fulfilled. In this respect, 80% of the tax credits can be claimed and set off against the tax owed. Nevertheless, there is an upper limit of EUR 3 million here too if the tax credit relates to qualifying R&D expenses, and of EUR 1 million if the tax credit is being claimed for technological development.

An unused tax credit can be carried over for 18 years and, since 2013, the option to receive an early refund subject to certain conditions has also been provided.

### Output-based tax incentives (patent box regime)

Turnover generated from IP which was developed before September 29, 2013 is 50% tax-exempt. In this respect, the pecuniary benefit is limited to six times the IP costs. For IP which was developed after this date, a 60% tax exemption applies to the profits relating to the IP (difference between IP revenue and IP costs). In this case, there is no limit of six times the IP costs.

### Other tax incentives

Besides the tax credit system and the patent box regime, there is the option to use an accelerated write-off for assets which are used for qualifying R&D activities or technological development.

## Qualifying R&D expenses/activities

### General

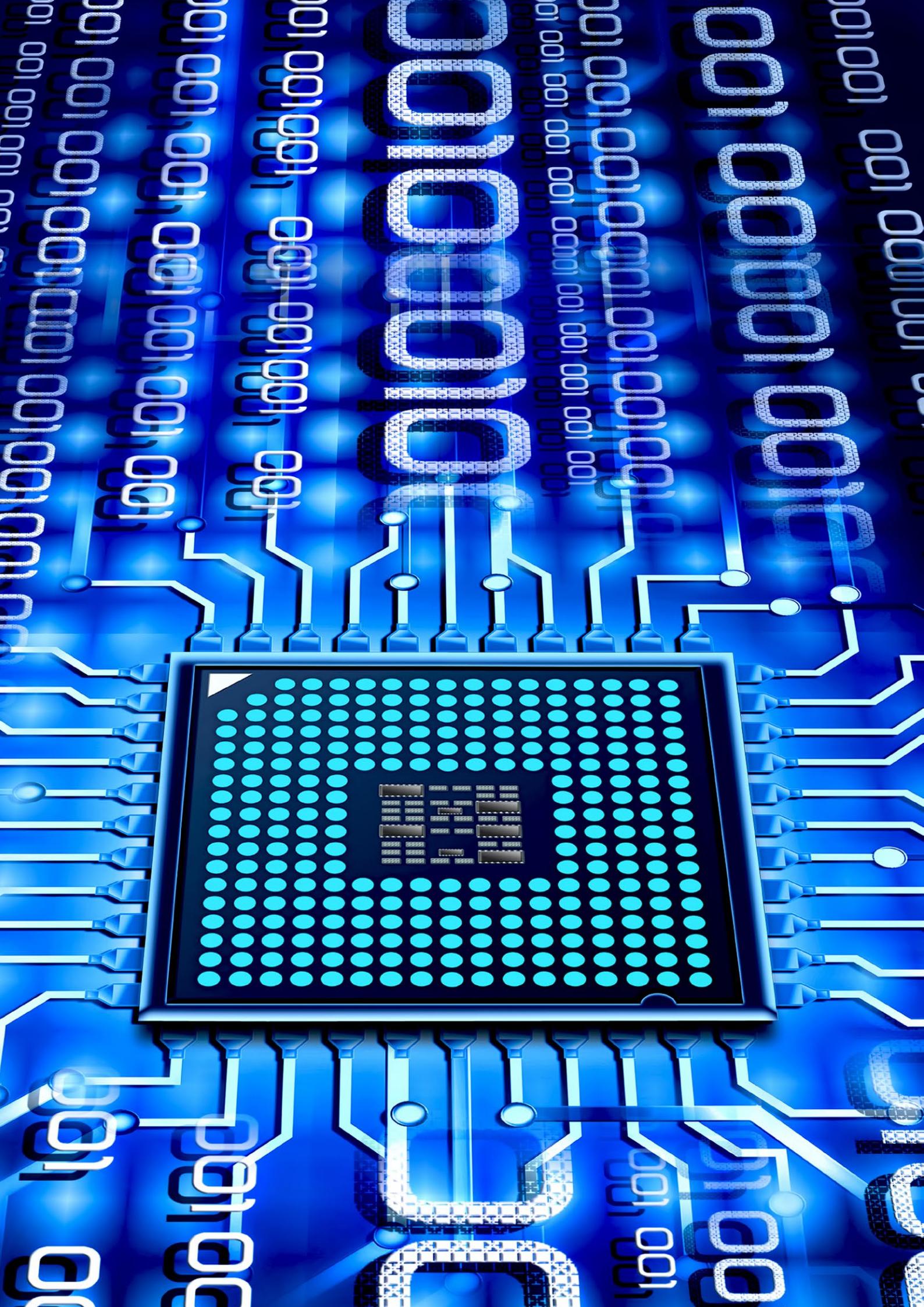
Those R&D activities which are carried out for the purpose of acquiring new knowledge or expanding existing knowledge of scientific or technological fields are regarded as qualifying. The term "development" is understood to refer to the use of existing knowledge for the purpose of producing new products or production processes.

Based on these principles, qualifying expenses include the following:

- personnel expenditure relating to R&D personnel;
- costs relating to investments in assets used exclusively for qualifying R&D activities;
- depreciation expense on R&D assets insofar as they are directly related to a specific R&D project and are also entered accordingly.

In addition, costs relating to technological innovations will then be regarded as qualifying if they are directly related to a technological innovation project and are entered accordingly.

In order for a company incorporated in Spain to be able to claim tax credits, the qualifying R&D expenses must be incurred either in Spain itself or else in an EU member state or within the European Economic Area. Expenses relating to outsourced R&D activities can also be deducted



as long as the R&D expenses are incurred in an EU member state or in the European Economic Area.

The option to claim expenses as qualifying R&D expenses is not dependent on either the industry or the type of company.

#### **Preconditions for the application of the patent box regime**

In order for the profits from the use or transfer of IP to be taxed at a reduced rate, they must relate to qualifying intangible assets. Such assets include in particular patents, plans, formulas and models.

activities is extremely similar to the one from the Frascati Manual.

Based on this approach, qualifying expenses include the following:

- personnel expenditure (incl. social security costs) relating to persons involved in R&D;
- depreciation on movable assets used for R&D activities;
- overhead costs which relate directly to R&D activities (project-related travel expenses, costs of materials, water, energy costs, etc.);
- expenses incurred relating to collaboration with public R&D institutions (from 2014).

## **Czech Republic**

### **Overview**

As an example of a younger economy, the Czech Republic has introduced both a higher deductibility for certain R&D expenditure and also an incentive system for incentives to invest in R&D centers.

#### **Type of R&D tax incentive**

##### **Input-based tax incentives**

The actual tax incentive for R&D activities provides the option to claim a deduction at a rate of 200% up to 210% for qualifying R&D expenses. If this higher deductibility cannot be used in the corresponding year, it can be used during the next three years.

##### **Other tax incentives**

The Czech Republic has introduced various incentive measures to promote investments in R&D centers. Besides subsidies and relief, these also include a so-called "tax holiday." This exempts investments in technological equipment from corporate profit tax for a period of 10 years.

#### **Qualifying R&D expenses/activities**

In principle, R&D activities differ from other activities insofar as they can create new products or developments or explain the unexplained. In that respect, the definition of qualifying R&D

While expenses relating to outsourced R&D activities cannot be deducted, there is the option to deduct R&D activities carried out for customers by the company itself. In addition, the qualifying activities can be carried out outside the Czech Republic as long as the expenses are assigned to the Czech taxable entity.

## **United States**

### **Overview**

At the federal level, since 1981 there has been an incremental tax credit model which expires about every two years but is renewed again and again – usually retroactively. In addition, many states have implemented their own tax credit models, some of which are very diverse.

#### **Type of R&D tax incentive (CIR and CII)**

Generally, qualifying R&D expenses are deductible at a rate of 100%. In addition, at the federal level a tax credit model is offered which in principle provides two calculation variants. So there is the option of a tax credit at a rate of 20% of the R&D expenses exceeding a specific basic amount. However, on account of the complex calculations connected with the deductibility of R&D costs, the effective tax credit only amounts to a maximum of 6.5% of the annual R&D expenses. Alternatively, a tax credit of 14% can be claimed for R&D expenditure exceeding 50% of the average R&D expenditure from the

previous three years. Also in this case, due to the calculation the effective tax credit amounts to a maximum of 9.1% of the annual R&D expenses.

Besides the incentive at the federal level, many states also offer tax credit models, some of which are very different from each other (e.g. in respect of the refundability of unused credits).

### Qualifying R&D expenses/activities

In particular, the term "qualifying R&D" is understood to refer to activities for the purpose of (further) developing so-called "business components." Within the context of these activities, qualifying expenses include the following:

- wage costs relating to the persons entrusted to carry out the R&D activities;
- material expenditure incurred in connection with R&D activities;
- 65% of the expenses incurred through outsourced R&D activities.

In order for expenses to qualify as R&D expenses, they must be incurred within the United States. However, the sector itself is irrelevant for qualification.

## China

### Overview

China has a variety of different tax incentives for R&D companies. So on the one hand, R&D expenses can be deducted at a higher rate. On the other hand, there are specific tax statuses for R&D companies which affect not only corporate profit tax but also business and value-added tax.

### Type of R&D tax incentive

#### Input-based tax incentives

As an input-based tax incentive, the Chinese government offers R&D companies the option to deduct qualifying R&D expenses at a rate of 150%. Losses incurred relating to this higher deductibility can be set off during the next five years.

#### Output-based tax incentives

In China, if certain criteria are fulfilled, the tax status of companies carrying out R&D activities can be confirmed as either an "advanced technology service enterprise (ATSE)" or else as a "high and new technology enterprise (HNTE)." In both cases, the companies benefit from a reduced tax rate of 15%. In addition, companies with these tax statuses may be partially exempted from the business and value-added tax incurred within the framework of certain R&D activities. The ATSE status also offers the option to deduct 8% of the training costs of personnel instead of the customary 2.5% for corporate profit tax purposes. Companies with the HNTE tax status located in specific economic zones can request a so-called tax holiday after their first profitable year. This encompasses an exemption from corporate profit tax for the first two years and exemption from half the corporate profit tax for the next three years.

#### Other tax incentives

Besides the R&D tax incentives already described, qualifying technologies can be carried over while remaining exempt from profit tax.

### Qualifying R&D expenses/activities

#### General

In China, R&D encompasses the development of new products, new technical processes and new skills.

In order for R&D activities to qualify for higher deductibility, they must relate to the development of new technologies, new production processes or new products. Qualifying R&D expenses include the following:

- personnel expenditure relating to research personnel;
- depreciation expense on R&D equipment and on intangible assets (e.g. patents and software);
- costs of the materials used for R&D (incl. associated general costs such as power, etc.);
- expenses relating to pilot tests and prototype development;
- maintenance costs relating to R&D equipment;
- costs relating to outsourced and commissioned R&D activities.

In order for these expenses to qualify as R&D expenses, in principle they must be incurred in China (certain exceptions apply to companies with the HNTE status).

#### Preconditions relating to the HNTE status

In order to qualify for the HNTE status, a company must have already been awarded a corresponding certificate. In principle, this is valid for three years and has a variety of preconditions attached to it. The preconditions relate to factors which include the following:

- the number of qualified research personnel (at least 30% of the R&D personnel need to have obtained an appropriate degree);
- a minimum for R&D expenses (at least 3–6% of the turnover achieved during the three-year period);
- the turnover achieved in connection with the development of new technologies (at least 60% of the total turnover);
- ownership of the intellectual property developed in China.

In addition, this status can only be awarded to companies whose activities or products fall within the field of application defined by the Chinese government (e.g. aerospace, the pharmaceutical industry and the entertainment electronics industry).

#### Preconditions relating to ATSE status

In order to qualify for ATSE status, a company must provide at least one of the following "advanced and new technology services":

- information technology outsourcing (ITO)
- business process outsourcing (BPO)
- knowledge process outsourcing (KPO)
  - with advanced technology and extensive R&D activities

Other preconditions include the following:

- more than 50% of the workforce needs to have obtained a degree;
- more than 50% of the turnover needs to come from "advanced and new technology services";
- more than 35% of the turnover comes from R&D activities carried out for foreign companies.

Finally, the company must be registered and operate in one of the 21 model cities.<sup>30</sup>

#### Preconditions for the tax-exempt carryover of qualifying technologies

The following preconditions must be fulfilled in order for the carryover to be tax-exempt:

- the company performing the carryover must be based in China;
- carryovers in China as well as in other countries must be approved by the relevant competent authorities in each case;
- further preconditions may apply, depending on the various authorities.

In addition, the technology to be carried over must fall within the field of application defined by the Ministry of Finance (MOF) and by the tax authorities (SAT). This field includes the following:

- patent technology;
- copyright on computer software;
- biopharmaceutical products.

## Singapore

#### Overview

Like Switzerland, Singapore is regarded as a leading center for science and innovation. Its recipe for success lies in the efforts being made to develop public R&D activities and to promote private R&D activities. Therefore one of Singapore's systems is a multi-level, input-based system for promoting R&D tax incentives.

#### Type of R&D tax incentive

Singapore's actual tax incentive model is based on a higher deductibility system for qualifying R&D expenses. Various rates apply, depending on the type of qualifying activities or expenses. First of all, there is a general deductibility for R&D expenses at a rate of 100%. In addition, qualifying R&D expenses can be deducted by adding 50% to this rate. This additional deductibility was extended until 2025 as part of the budget in 2014.

In addition, specific R&D expenses incurred which relate to R&D projects approved by the

government can be deducted at a rate of 200%. This form of deductibility for R&D expenses is currently an option until 2020.

Singapore also has the so-called "Productivity and Innovation Credit" model (PIC model). Within the framework of this model, companies can deduct qualifying R&D expenses of SGD 400,000 at a rate of 400% up to 2018. Small and medium-sized enterprises<sup>31</sup> can claim this deduction for an additional SGD 200,000 of qualifying R&D expenses. If the preconditions are fulfilled, a deduction at a rate of 100% or 150% can still be applied to those qualifying R&D-related costs which exceed these sums. The PIC model also offers companies the option to turn 60% of the first SGD 100,000 of qualifying R&D expenses into a cash payment during the period 2015-2018. Generally, unused R&D expenses can be credited to subsequent years.

### Qualifying R&D expenses/activities

In Singapore, R&D encompasses systematic and experimental studies in the field of science

and technology which involve technical risk and focus on the acquisition of new knowledge or the further development of existing knowledge. In principle, the generally deductible R&D costs include the following:

- wage costs relating to R&D activities;
- material expenditure incurred in connection with R&D activities;
- outsourced contract R&D (thus the customer is entitled to claim the deduction in each case).

In order to be able to benefit from the additional 50% deduction, R&D activities must fall within a predefined catalogue. This primarily includes the wage costs of R&D personnel as well as specific material costs relating to the R&D process. In general, it can be said that this is a narrower definition compared with general deductibility. However, in both cases, the R&D activities must be carried out in Singapore itself (in this respect it is not important whether or not the activities are contractually outsourced). Double deductibility relates to costs in connection with R&D projects including the following:



- wage costs of the personnel involved;
- material expenditure incurred in connection with R&D activities;
- development costs;
- overhead costs relating to the project.

In principle, the above-mentioned R&D expenses also qualify for the PIC model. However, when applying this model, qualifying costs incurred outside Singapore can also be deducted.

subject to certain preconditions. In order to qualify for these, companies must carry out R&D activities for foreign customers or export the results to them and operate their own R&D "units" in so-called "special economic zones" (SEZs). With this system, revenue from the R&D activities carried out for customers in other countries and exported is fully exempt from tax for the first five years and half exempt for the next five years. If that revenue is allocated to a reserve set up specially for that purpose, it will be exempt from tax for a further five years.

Other tax incentives relate to customs duties and excise duties. So the import of certain products by R&D companies or research facilities is exempt from customs duties or taxed at a reduced rate. Likewise, research facilities are exempt from excise duties when procuring R&D equipment. Finally, in India there is the option to use an accelerated write-off for certain assets.

## India

### Overview

India offers R&D companies a variety of R&D incentive measures, only a few of which are tax-related. Only these incentives are explained in detail below.

### Type of R&D tax incentive

#### Input-based tax incentives

First of all, in India, qualifying R&D expenses are deductible at a rate of 100%. This general deductibility is not dependent on sector, and is also applicable to R&D costs already incurred before the actual commencement of the company's activities. However, the costs must be accepted by the "Department of Scientific and Industrial Research" (DSIR) in each case. Companies in selected sectors (e.g. biotechnology) as well as selected activities (e.g. the production of certain products) have the option to deduct internal R&D expenses at a rate of 200%. These expenses must also be accepted by the DSIR. In both cases (100% and 200% deductibility), unused R&D expenses can be claimed during the next eight years.

Another tax incentive relates to contributions to public institutions or private companies which focus on R&D activities. The deductibility of these contributions varies between 125% and 200%, depending on the recipient of the contribution and the relevant authority which granted the recipient approval.

#### Other tax incentives

Besides the input-based tax incentives, India grants companies so-called "tax holidays,"

### Qualifying R&D expenses/activities

#### General

In India, the term "R&D activities" is understood to refer to activities for the purpose of expanding knowledge in the field of natural sciences and applied research. The activities subsumed under the term include the development of new technologies and techniques, product and process optimization and the elaboration of new analysis and test methods.

Derived from this, qualifying R&D expenses include the following:

- salary expenses directly related to R&D activities;
- material costs directly related to R&D activities;
- expenses relating to clinical trials if corresponding official confirmation was obtained beforehand.

On the other hand, overhead and administrative costs as well as depreciation expenses are not regarded as qualifying R&D expenses. In addition, the qualifying activities must be carried out in India itself.

#### Double deductibility

As already mentioned, deductibility at a rate of 200% is only available for certain sectors or activities. In addition, the R&D institution must

have been granted a corresponding approval by the DSIR in each case. In order to obtain that approval, the institution needs to have its own personnel and to keep separate accounts.

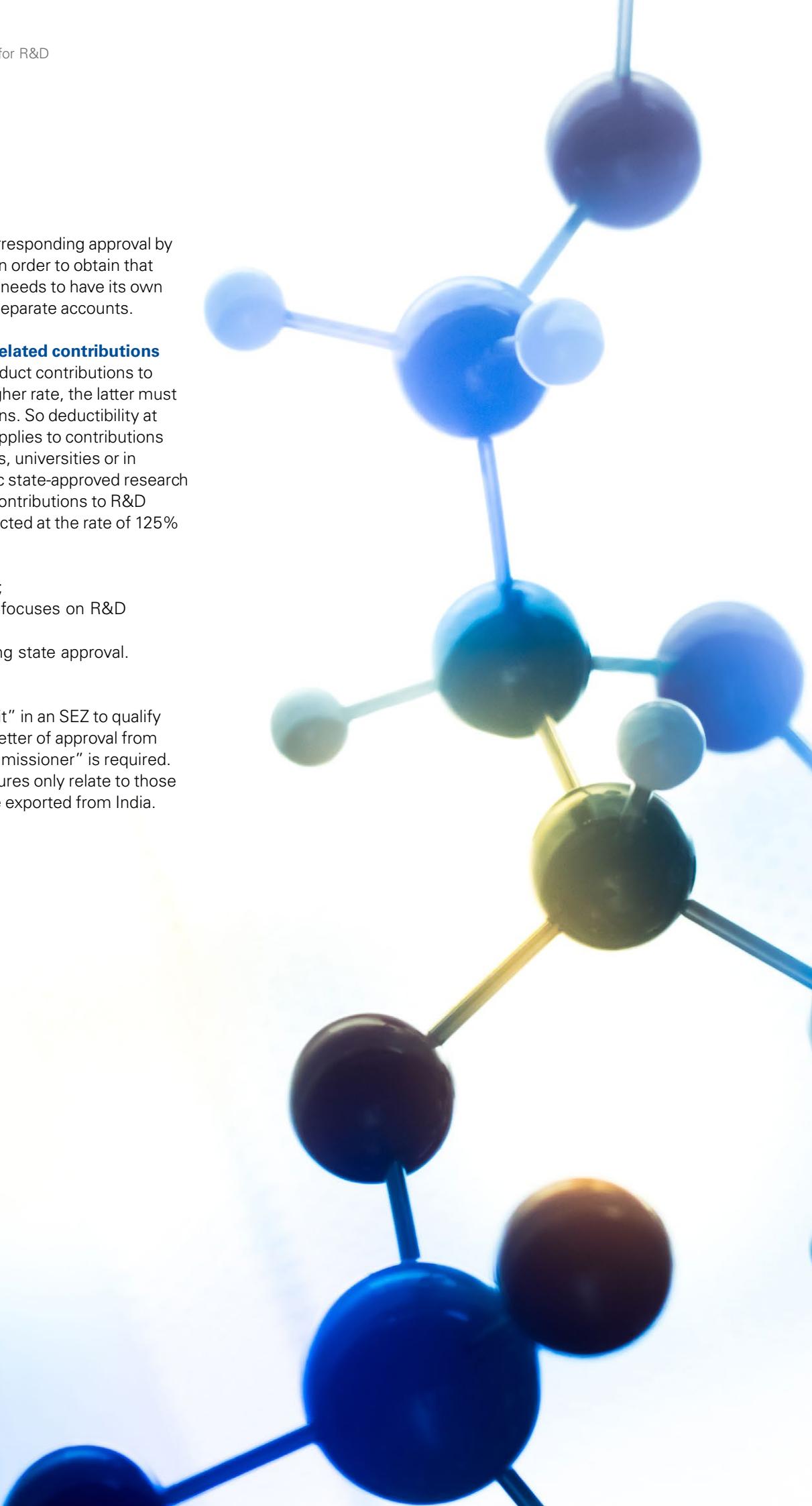
#### **Deductibility of R&D-related contributions**

In order to be able to deduct contributions to R&D institutions at a higher rate, the latter must fulfil certain preconditions. So deductibility at a rate of 125%–200% applies to contributions to state R&D institutions, universities or in connection with specific state-approved research programs. In addition, contributions to R&D companies can be deducted at the rate of 125% if the recipient:

- is registered in India;
- is a company which focuses on R&D activities;
- holds a corresponding state approval.

#### **Tax holiday**

In order for an R&D “unit” in an SEZ to qualify for this tax incentive, a letter of approval from the “Development Commissioner” is required. In addition, these measures only relate to those R&D services which are exported from India.



# Appendix II:

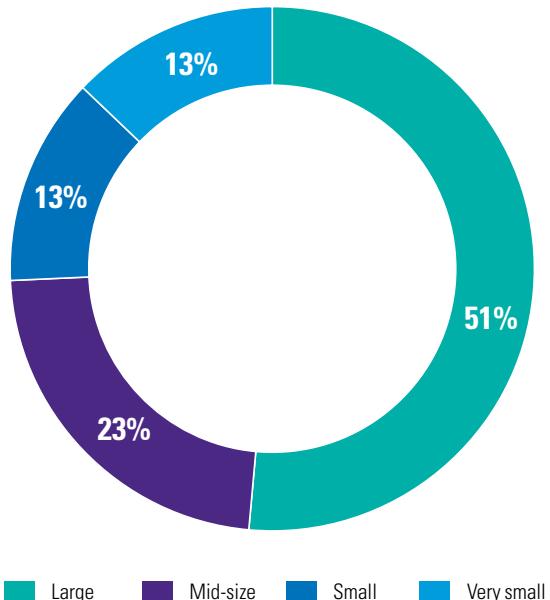
## Supplement to the survey

More detailed results for individual questions, which were only summarized in the Survey chapter, are given in the following pages.

### General information about participants

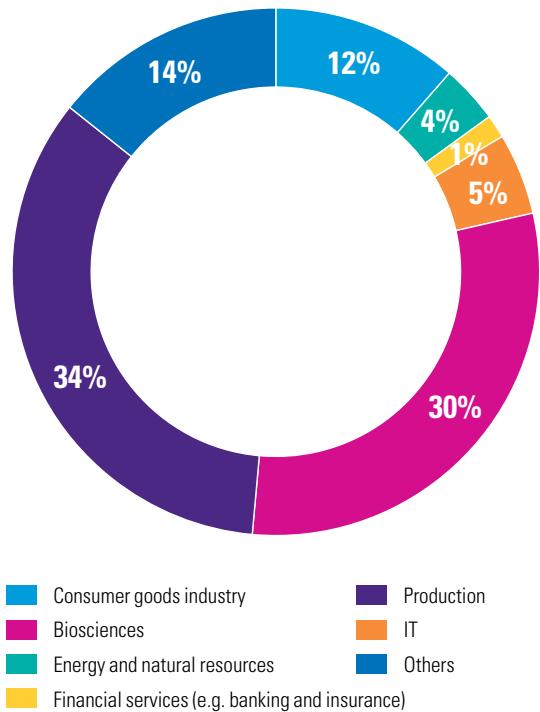
As is evident from the following representation, companies of all sizes took part (the division is governed by the European Commission's definition of SMEs). The largest group of participants is, however, made up of large companies (with more than 250 full-time employees) at 51%.

Choose the size of your company based on the values (number of employees) from the European Commission's definition of small and medium-sized enterprises.



Participants are mainly active in the biosciences (30%) and production (34%) sectors.

### In which sector do you work?



If one takes a closer look at biosciences, it becomes apparent that 41% of these companies are active in the pharmaceutical industry. The remaining 59% are evenly distributed across the chemicals, medtech and biotech industries.

### Information about the participating companies' R&D activities

89% of the participating companies primarily use applied science. The remaining 11% focus on basic research. It must be remarked here, however, that the participating companies frequently carry out both applied research and basic research. Accordingly, these percentages only depict the main research focus.

According to the information supplied by participants, 65% have specific R&D facilities. The remaining 35% conduct R&D as part of their usual infrastructure.

As expected, and similar to the KPMG survey in 2011, the main locations for these R&D facilities are in Switzerland and the USA. China's growing importance as an R&D location is also evident. 33% of participating companies carry out R&D in China. Germany is also frequently chosen as a location for R&D, with 25%.

The expenditure on R&D of 65% of the companies surveyed is between 1% and 10% of total expenditure. Another 25% of companies stated that their R&D expenditure amounted to more than 10% of total expenditure. For the remaining 10% of companies surveyed, R&D expenditure amounted to less than 1% of total expenditure.

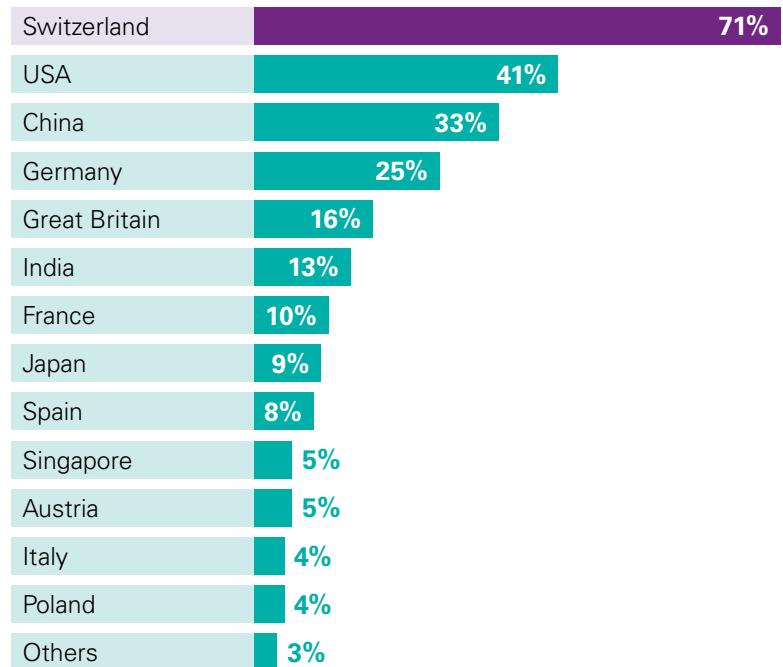
With the focus on Switzerland, more than half of the participating companies stated that over 50% of their annual R&D expenditure took place in Switzerland. Only one quarter of participants spent less than 10% of their R&D budgets in Switzerland. In total, the R&D expenditure in Switzerland of 39% of the participating companies amounted to more than CHF 5 million per annum.

27% of companies surveyed stated that their R&D expenditure incurred in Switzerland amounted to between CHF 500,000 and 5 million per annum. The R&D expenditure of the remaining 25% amounted to less than CHF 500,000 per annum.

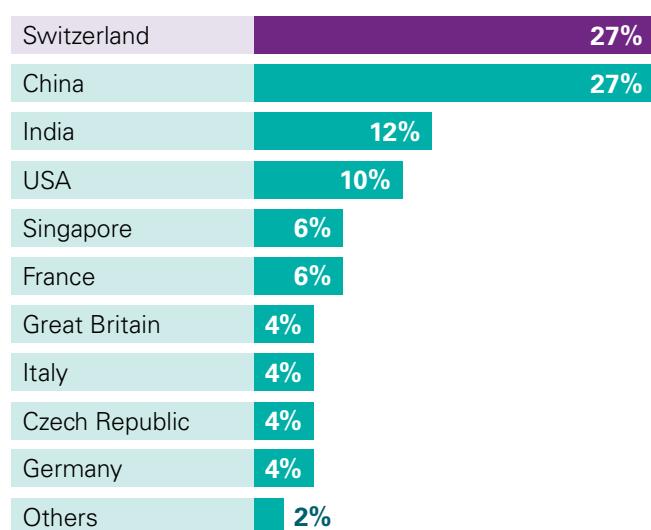
35% of companies surveyed had developed new R&D centers within the last five years, with primarily Switzerland and China being cited as preferred locations for the development of new R&D sites. Countries such as India, the USA, Singapore and France are increasingly considered as new R&D locations.

Of the companies surveyed, 31% already benefit from R&D tax incentives. The USA is the country mentioned most often, with 35%, followed by the United Kingdom (25%), France (23%), Spain (16%) and China (11%). 71% of participating companies mainly benefit from input-based R&D incentives. By comparison, just 11% of companies benefit

## Where are your main R&D centers located?



## Where has your company set up R&D centers or facilities in the last five years? (Applies only to those which have developed such centers in the last five years)



from output-based tax incentives. Another 16% of participants enjoy both types of incentive and the remaining 2% other R&D incentives (such as accelerated depreciation).

# Notes

- 1 Cf. for example S. Dutta, B. Lanvin & S. Wunsch-Vincent (2014), Global Innovation Index 2014.
- 2 Cf. for example OECD (2013), Taxation and knowledge-based capital, in Supporting Investment in Knowledge Capital, Growth and Innovation; or TAXUD/2013/DE315 A Study on R&D Tax Incentives, final report.
- 3 Dispatch of June 5, 2015 on Corporate Tax Reform Law III (Unternehmenssteuerreformgesetz III), Swiss Federal Gazette 2015 5081 ff. no. 1.1.1.1.
- 4 OECD (2005), Oslo Manual – Guidelines for Collecting and Interpreting Innovation Data, 3rd ed.
- 5 Based primarily on the Swiss Federal Statistical Office (2014), F&E in der schweizerischen Privatwirtschaft 2012. [R&D in the Swiss Private Economy 2012]. The data was collected every three years from 1983 to 1992, and has been collected every four years since 1992.
- 6 Includes all expenditure for R&D conducted by companies themselves, i.e. on their own premises.
- 7 S. Dutta, B. Lanvin & S. Wunsch-Vincent (2014), Global Innovation Index 2014, p. XXIV.
- 8 The “innovation output” describes the deliverables and results of innovation within the national economy.
- 9 In this case companies with fewer than 100 employees.
- 10 Swiss Federal Statistical Office (2014), F&E in der schweizerischen Privatwirtschaft 2012, [R&D in the Swiss Private Economy 2012], p. 18.
- 11 Swiss Federal Statistical Office (2014), F&E in der schweizerischen Privatwirtschaft 2012, [R&D in the Swiss Private Economy 2012], p. 25.
- 12 Swiss Federal Statistical Office (2014), F&E in der schweizerischen Privatwirtschaft 2012, [R&D in the Swiss Private Economy 2012], p. 25.
- 13 See <http://www.kti.admin.ch>.
- 14 Commission for Technology and Innovation CTI, 2011, Jahresbericht Förderagentur für Innovation KTI 2010, [Annual report of the agency for promoting innovation CTI 2010], p. 6.
- 15 To cushion the effects of the strong franc, the federal government has increased this amount only for 2011 and 2012 by a total of CHF 20 million; cf. Swiss Federal Economics Dept. press release dated February 16, 2011.
- 16 Swiss Federal Statistical Office (2014), F&E in der schweizerischen Privatwirtschaft 2012, [R&D in the Swiss Private Economy 2012], p. 42.
- 17 Swiss Federal Statistical Office (2014), F&E in der schweizerischen Privatwirtschaft 2012, [R&D in the Swiss Private Economy 2012], p. 6.
- 18 Dispatch pertaining to the popular initiative “Gegen Masseneinwanderung” [“Against mass immigration”] of December 7, 2012, Federal Gazette 2013 291 ff.
- 19 Cf. Noser motion/liberal parliamentary group of December 17, 2008; Hurter motion of March 19, 2010.
- 20 For example, France, the United Kingdom, the Czech Republic, China, India, Singapore, the United States, Spain or Canada; see chapter 5, tax incentives for R&D abroad.
- 21 Cf. A. Müller / R. Gramigna / T. Linder, Forschungsstandort Schweiz – mehr Attraktivität durch steuerliche Anreize, Konkreter Vorschlag für die Einführung von steuerlichen Fördermassnahmen, [Research location Switzerland – more attractiveness through incentives, a concrete proposal for the introduction of tax incentives], in: Der Schweizer Treuhänder, 2008/10, p. 803 ff.
- 22 OECD (2002), Frascati Manual – Proposed Standard Practice for Surveys on Research and Experimental Development.
- 23 OECD (2005), Oslo Manual – Guidelines for Collecting and Interpreting Innovation Data, 3rd ed., p. 31 ff.
- 24 European Commission (2015), A Study on R&D Tax Incentives – Final Report, Working Paper No. 52, p. 91 ff.
- 25 See Appendix II for further information.
- 26 European Commission (2006), The new SME definition – user guide and model declaration.
- 27 A system which provides for “tracking and tracing” of specific R&D expenditure is to be rejected because it requires a disproportionate response from taxpayers and authorities.
- 28 Cf. draft Art. 24a (2) Tax Harmonization Act (StHG).
- 29 Federal Gazette 2015 5100 No. 1.2.5.
- 30 Beijing, Tianjin, Shanghai, Chongqing, Dalian, Shenzhen, Guangzhou, Wuhan, Harbin, Chengdu, Nanjing, Xi'an, Jinan, Hangzhou, Hefei, Nanchang, Changsha, Daqing, Suzhou, Wuxi and Xiamen.
- 31 This includes companies which generate less than SGD 100,000 in annual turnover and employ less than 200 people.
- \* The authors would like to extend their sincere thanks to Joshua Lehmann for his valuable support.

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