EUROPEAN
DEFENCE
AGENCY

DEFENCE DATA 2006-2016

EUROPEAN DEFENCE AGENCY

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INTRODUCTION

The European Defence Agency (EDA) collects defence data on an annual basis, and has done so since 2006, in line with the Agency's Ministerial Steering Board Decision of November 2005. The Ministries of Defence of the Agency's 27 Member States (MS)[1] provide the data. EDA acts as a custodian of the data and publishes the aggregated figures in its booklets.

The 2005 data has been collected during the pilot exercise, which included only a limited number of indicators. A complete dataset is available since 2006, based on the revised list of indicators, including the four collective benchmarks for investment, approved by the Agency's Ministerial Steering Board in November 2007.

The focus of this booklet is to provide an overview of defence spending developments over the decade, from 2006 to 2015, therefore most indicators cover these years. For defence expenditure breakdown, 2016 estimations are also provided. These are marked with 'e' throughout the booklet.

The data is presented in graphs, followed by short analysis. Comma is used as a decimal marker and dot as a thousand separator, as this is the practice followed by the majority of the EDA Member States.

1. All the EU Member States except Denmark participate in the Agency (under Article 5 of the Protocol on the position of Denmark annexed to the Treaty on European Union and to the Treaty on the Functioning of the European Union, Denmark does not participate in the formulation and implementation of EU decisions and actions which have defence implications).

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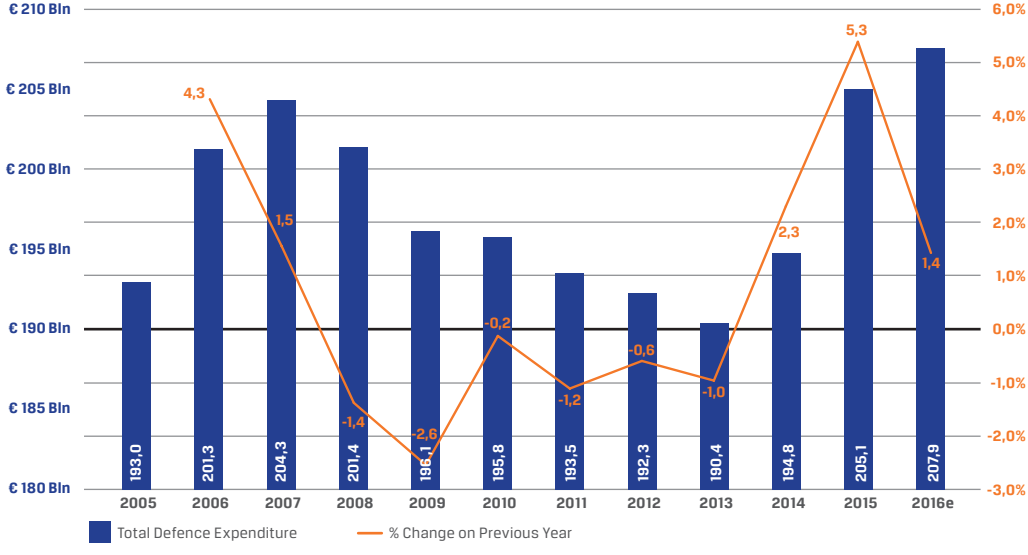

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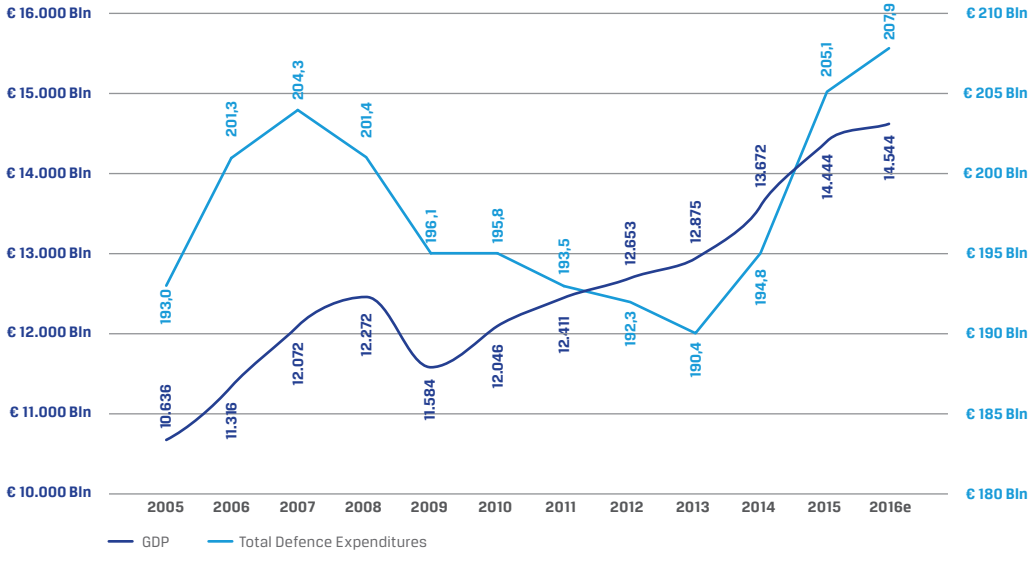

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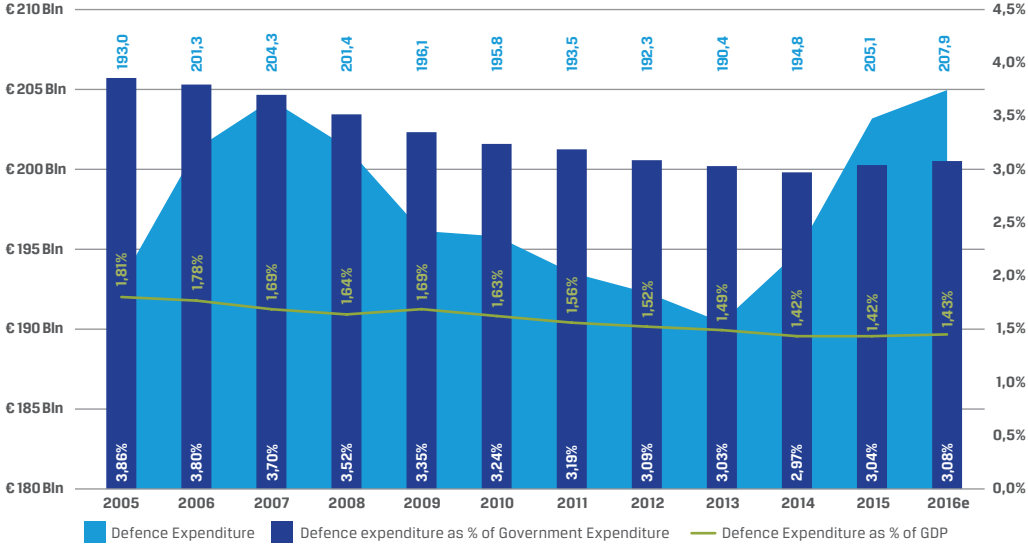

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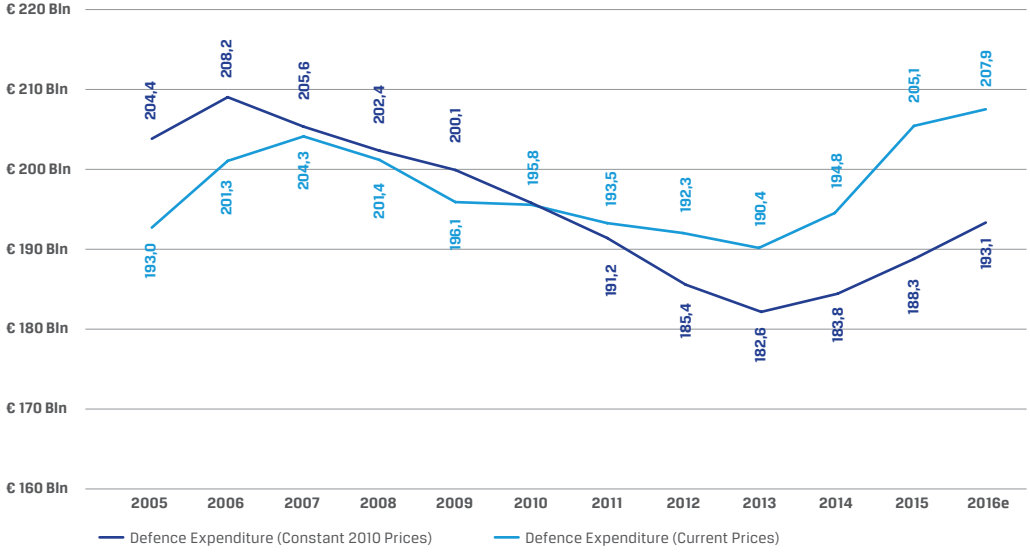

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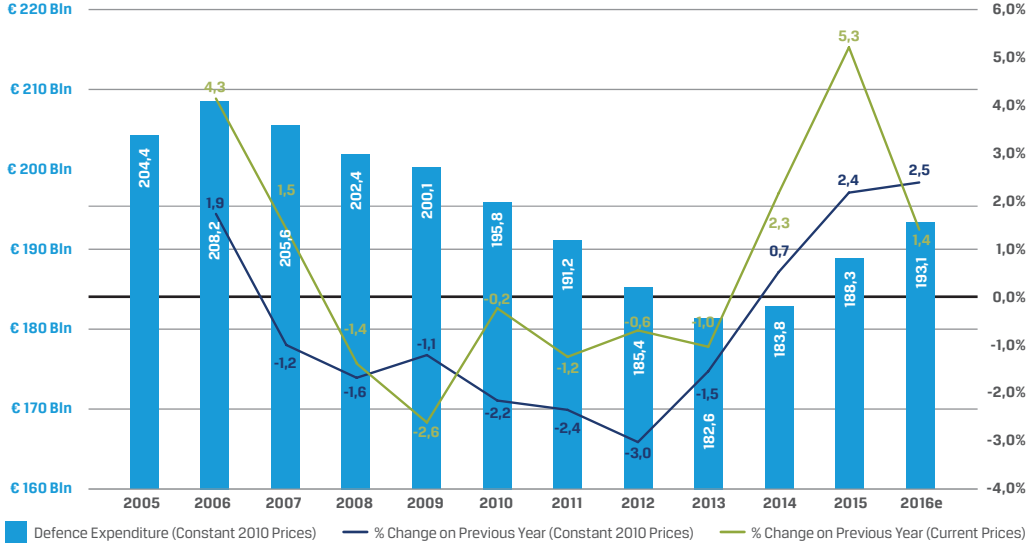

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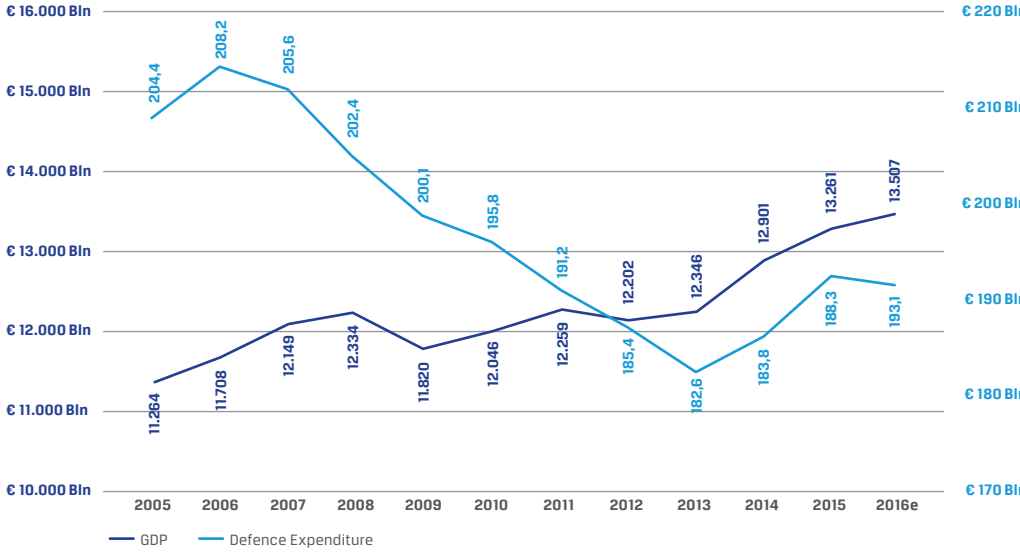


1. TOTAL DEFENCE EXPENDITURE

The evolution of the EDA Member States' defence spending over the past twelve years can be clearly divided into three major periods. After two years of a continuous nominal increase from 2005 to 2007, the total defence expenditure has been declining for the six consecutive years, largely due to the effects of the 2008 financial crisis. During the 2008-2013 period characterized by significant spending cuts in all defence expenditure categories, except operation and maintenance which remained relatively stable, the EDA MS have lost collectively over €23 billion, or 11,2% of their total 2007 defence spending in real terms[2]. The six-year-long decline was reversed in 2014, when the total defence expenditure of the EDA MS increased by €4,3 billion or 2,3%, compared to the record-low level of €190 billion in 2013. In 2015, the total defence spending increased further (+5,3%) to reach €205,1 billion, the highest nominal value to date. In real terms, however, the increase was half that: €4,5 billion or 2,4%. The provisional 2016 data indicates a subsequent nominal increase of almost €3 billion or 1,4%, suggesting that the European defence spending has not only reached and surpassed its pre-crisis level, but it seems to be on a longer-term upwards trend.

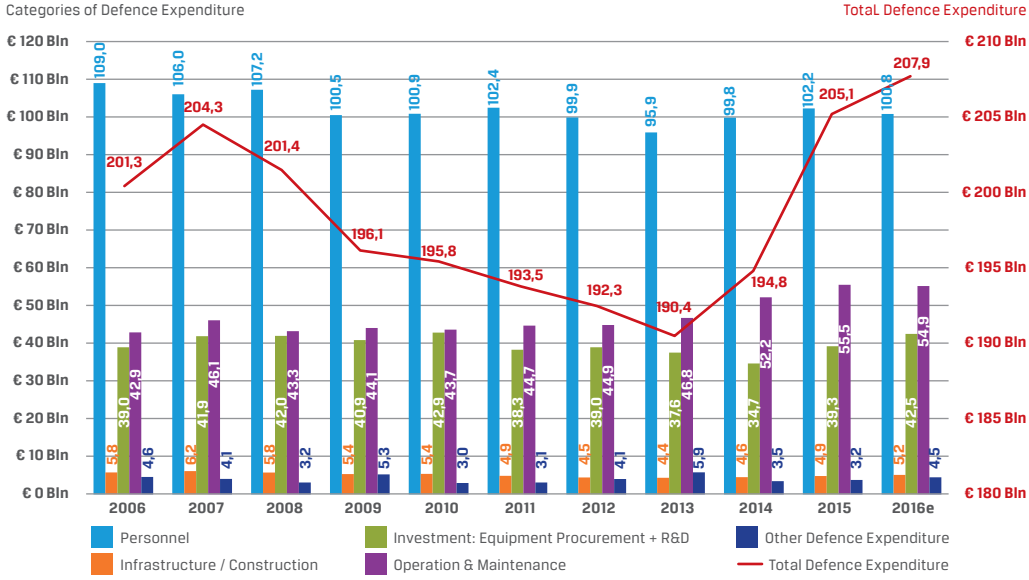
The comparison of the evolution of the EDA MS GDP with that of the total defence expenditure suggests that changes in defence spending are more linked to the financial expectations for the GDP than the actual GDP. Since 2005, the total EDA MS GDP decreased for the first time in 2009, whereas defence spending cuts occurred already a year earlier and continued up until 2013, despite the economic recovery which began in 2010, as GDP growth shows. The result of that was that the total defence expenditure as a share of GDP has been constantly declining during these years, and continued to do so even when the actual defence spending increased, owing to a faster growing GDP. In 2014-2015, the total defence expenditure relative to GDP has plateaued at 1,42%, and in 2016, it is estimated to have slightly increased to 1,43%[3].

Similarly, the proportion of the total defence expenditure in the total general government expenditure has been annually decreasing during 2005-2014, but it increased in 2015 to reach 3,04% and is estimated to have grown further in 2016 to 3,08%.

2. To ensure a "real" comparison over years, the data from 2005 to 2016 e has been adjusted to 2010 economic conditions (Source of deflator: European Commission, DG ECFIN, based on the weight of the EU-28).
3. As of 2014, reduced defence expenditure shares in relation to GDP in most Member States can partially be explained by the new GDP accounting methodology implemented by Eurostat, following the introduction of the new European System of National and Regional Accounts (ESA 2010).

2. DEFENCE EXPENDITURE BREAKDOWN

2.1 Defence Expenditure Breakdown (Current Prices)



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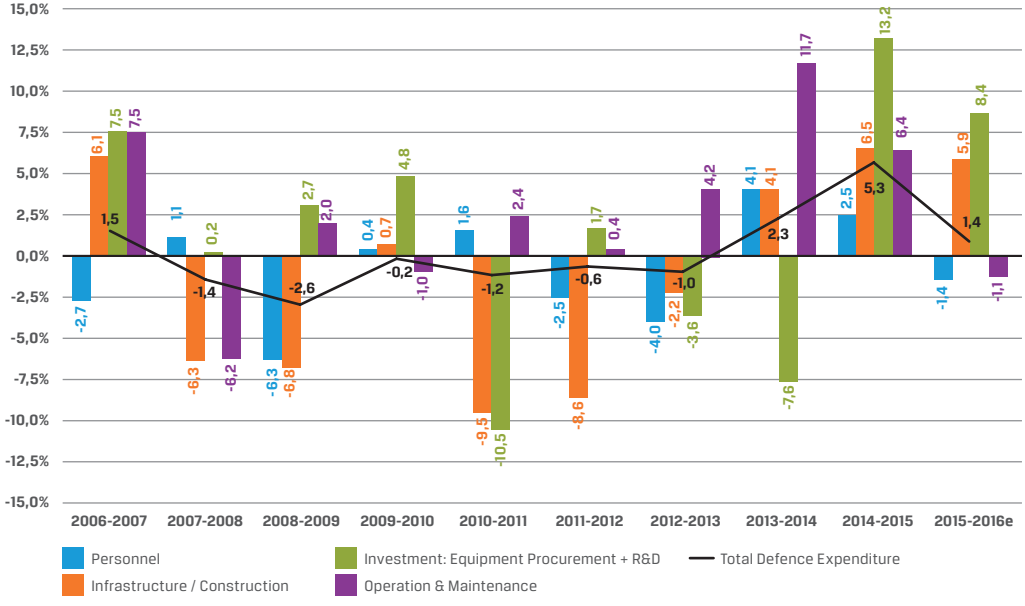

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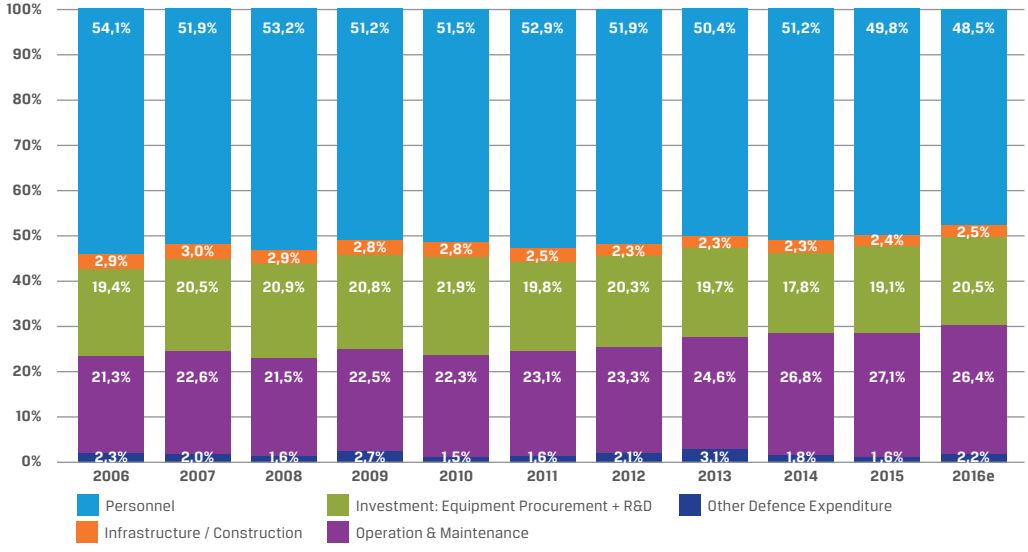


2. DEFENCE EXPENDITURE BREAKDOWN

Personnel expenditure constitutes the largest part of the total defence expenditure of the EDA MS. Being a less flexible cost than other defence expenditure categories, it, nevertheless, decreased substantially (-12%) from its highest level of €109 billion achieved in 2006 to its lowest of €96 billion in 2013. In 2014, personnel expenditure increased by over 4% and in 2015 – by another 2,4% to reach €102 billion, while in 2016, it is estimated to have slightly decreased again (-1,4%). The share of personnel expenditure in total defence spending has been gradually decreasing. If in 2006 it accounted for more than 54% of the total defence expenditure - the highest proportion recorded to date - in 2015, it was less than 50%, and in 2016, it is estimated to have decreased further to 48,5%, a result driven by a more substantial increase in other defence spending categories.

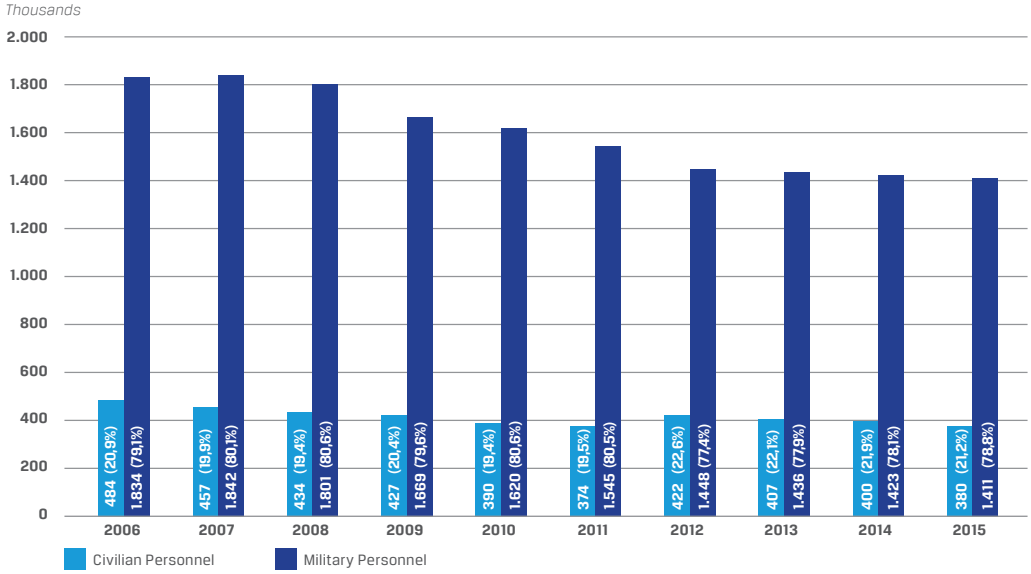
The second highest defence expenditure category - operation and maintenance – took the opposite direction. Although it decreased by almost €3 billion or 6,2% from 2007 to 2008, in the following years operation and maintenance expenditure remained relatively stable at around €44 billion, and since 2011, it has been increasing at an average annual growth rate of 5% to reach €55,5 billion in 2015. Its relative proportion in the total defence spending has also been increasing, and in 2015, it stood at 27,1% (as opposed to 21,3% in 2006). According to 2016 estimates, operation and maintenance expenditure has decreased slightly both in absolute (by 1,1%) and relative (by 0,7 percentage points) terms.

The peak of defence investment (comprising defence equipment procurement and R&D) was reached in 2010, when it amounted to €42,9 billion accounting for 21,9% of the total defence expenditure. Since then, defence investment has been declining both in absolute and relative terms to its lowest 2014 level of €34,7 billion making up 17,8% of the total defence spending. With an unprecedented increase of €4,6 billion (+13,2%) in 2015 and a subsequent estimated increase of €3,3 billion (+8,4%) in 2016, defence investment currently amounting to €42,5 billion (2016 e) appears to be on a promising upwards trend.

Annual expenditure on infrastructure has been relatively stable during the 2006-2015 period, amounting to €5 billion on average. Its share in the total defence spending ranged between 2,3% (from 2012 to 2014) and 3,0% (in 2007) during the same period. In 2015 and 2016 e, infrastructure expenditure increased by 6,5% and 5,9%, respectively, and accounted for 2,4% of the total defence expenditure, on average.

3. DEFENCE PERSONNEL

3.1 Civilian and Military Personnel: Absolute Numbers and Percentage Shares of Total Defence Personnel



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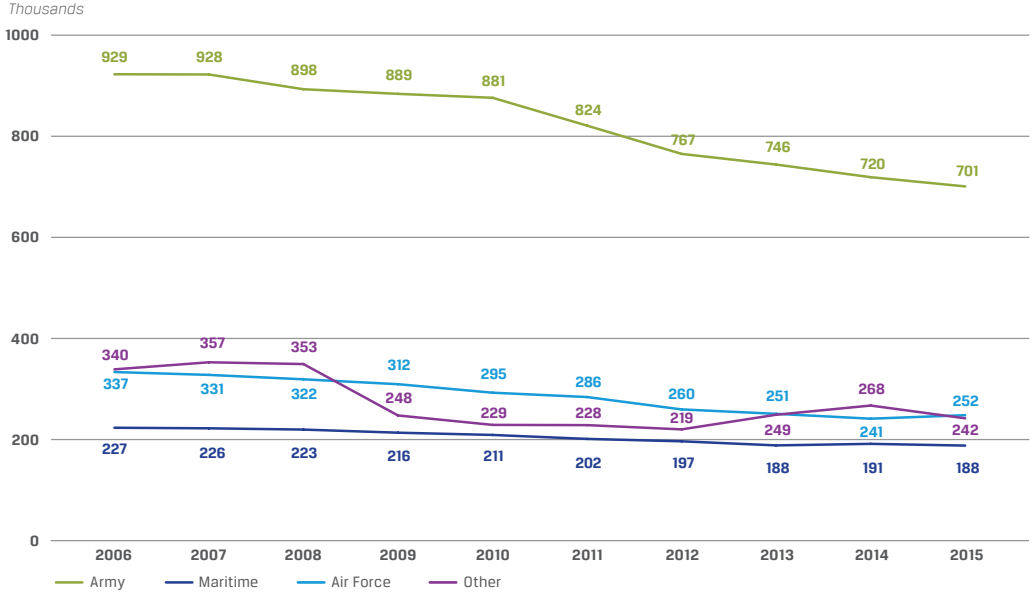
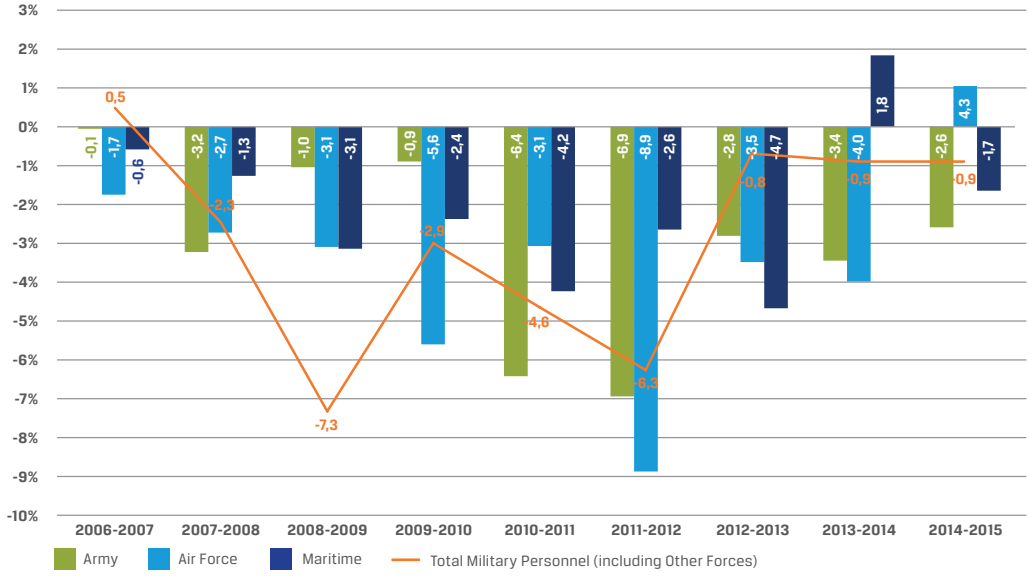


The figures may not add up to the totals provided due to rounding and due to the fact that not all Member States provide a precise breakdown of military personnel.

3.3 Military Personnel Breakdown: Percentage Change on Previous Year



3. DEFENCE PERSONNEL

During 2006-2015, the total number of the EDA MS defence personnel decreased by more than 500 thousand or 23%, with the biggest annual decrease recorded in 2009 (-6,2%). The ratio of military to civilian personnel remained roughly at 4 to 1 during the period, as both military and civilian personnel were affected by reductions.

Within the military personnel (Army, Maritime, Air Force and Other), the trend varied. Army Forces have been decreasing during the whole period, with the biggest annual reductions in 2011 and 2012 of 6,4% and 6,9%, respectively. Between 2006 and 2015, Army personnel was reduced by almost a quarter, from 929 thousand to 701 thousand.

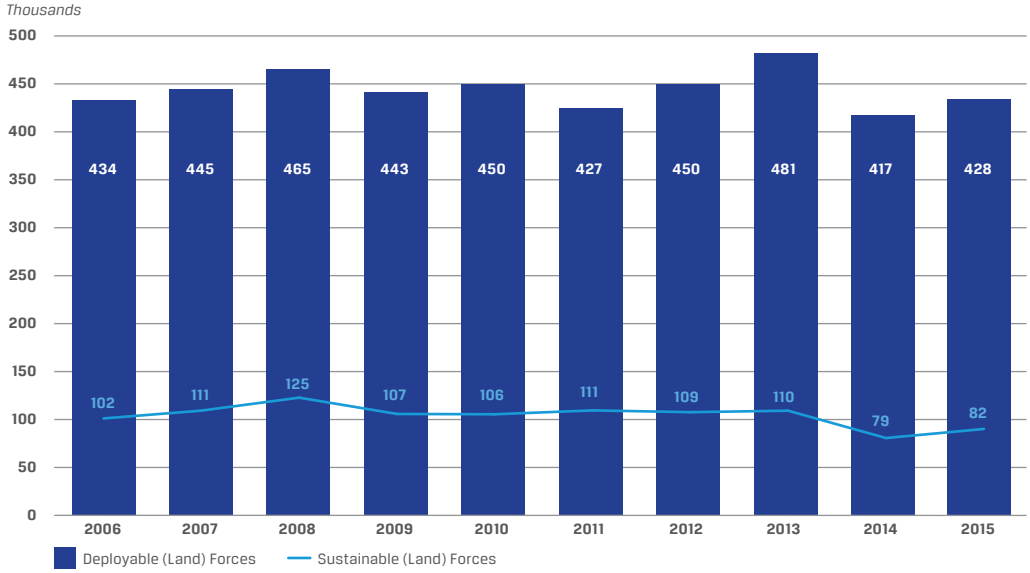
Naval Forces were affected the least by the reductions in manpower. Maritime personnel decreased by over 17% from 227 thousand in 2006 to 188 thousand in 2015. The biggest annual decrease took place in 2011 and 2013, resulting in a loss of 4,2% and 4,7%, respectively.

Air Force personnel has been annually decreasing from 2006 to 2014, with the largest drop in 2012 (-8,9%), which resulted in a total reduction of over 28%. However, in 2015, Air Forces increased by 4,3% and stood at 252 thousand.

Other defence personnel that does not belong to any of the aforementioned categories was reduced by almost 29%, from 340 thousand in 2006 to 242 thousand in 2015.

4. DEPLOYABILITY-SUSTAINABILITY

4.1 Deployable (Land) and Sustainable (Land) Forces: Absolute Numbers



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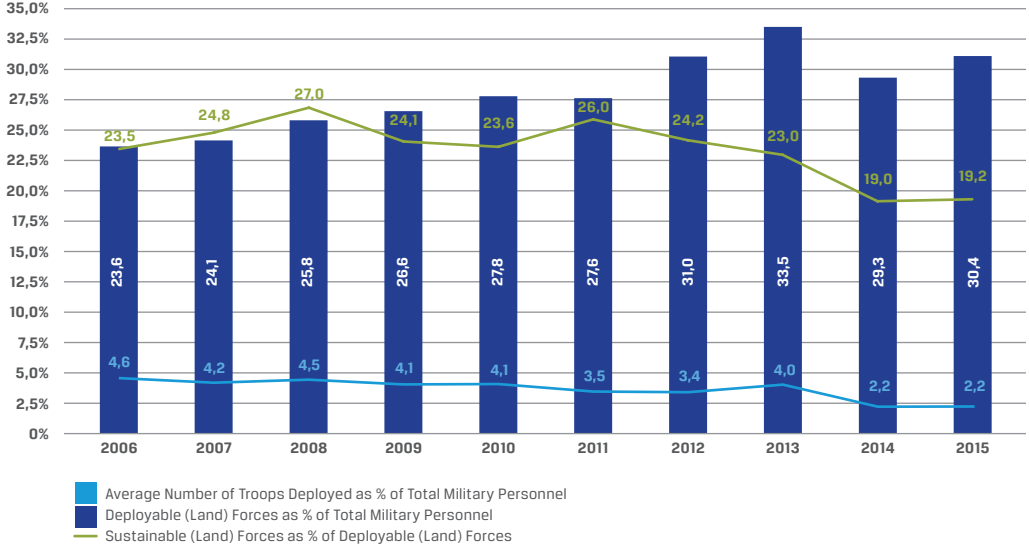

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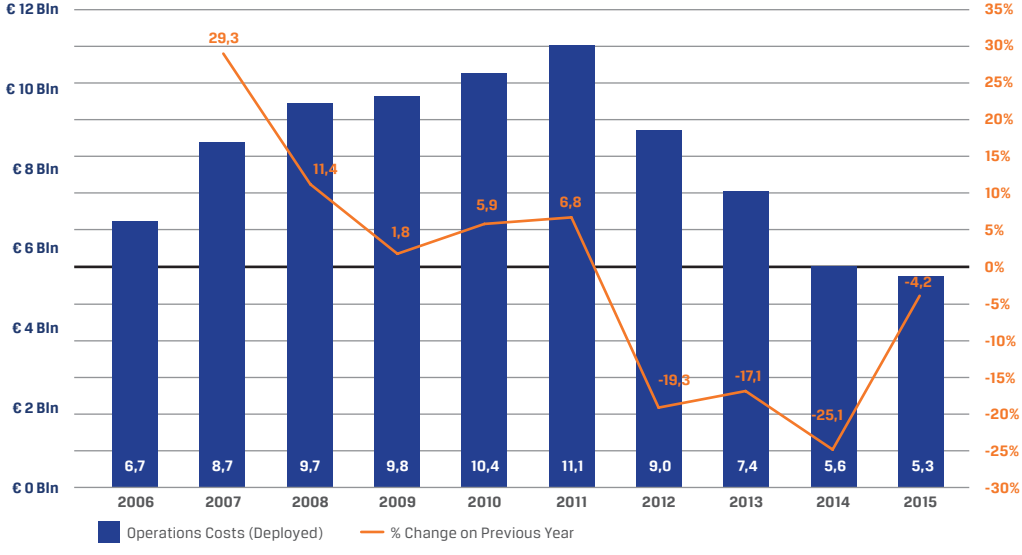

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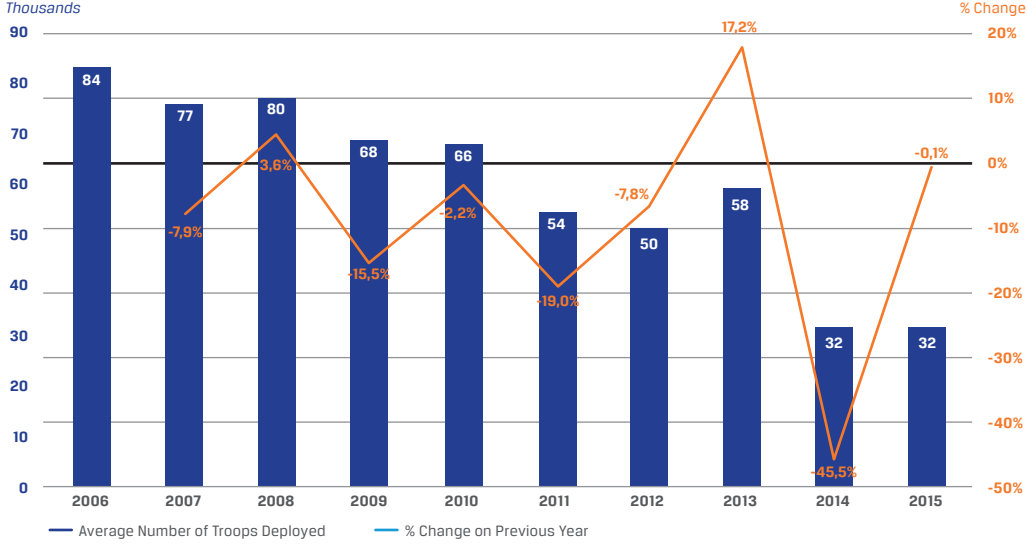


4. DEPLOYABILITY-SUSTAINABILITY

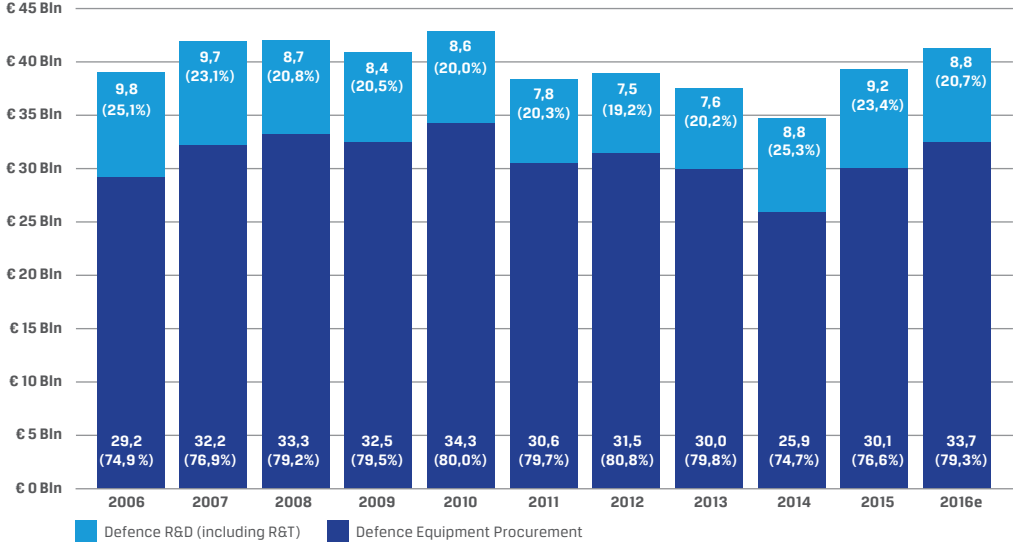
In 2006, Deployable (Land) Forces accounted for 23,6% of the total military personnel. Ten years later, in 2015, this share increased to 30,4%. On the other hand, Sustainable (Land) Forces as a share of Deployable (Land) Forces reduced from 23,5% in 2006 to 19,2% in 2015.

In 2015, the total EDA MS Deployable (Land) Forces amounted to approximately 428 thousand (2,7% more than in 2014) of which, Sustainable (Land) Forces constituted approximately 82 thousand. The ratio of Deployable to Sustainable (Land) Forces was roughly 4 to 1 from 2006 to 2013, but since 2014, it stood at 5 to 1.

The costs of deployed operations reached its peak in 2011 with €11,1 billion, and since then, it has been reducing annually. In 2015, operations costs amounted to €5,3 billion.

5. DEFENCE INVESTMENT

5.1 Defence Investment Breakdown: Absolute Values and Percentage Shares of Total Defence Investment



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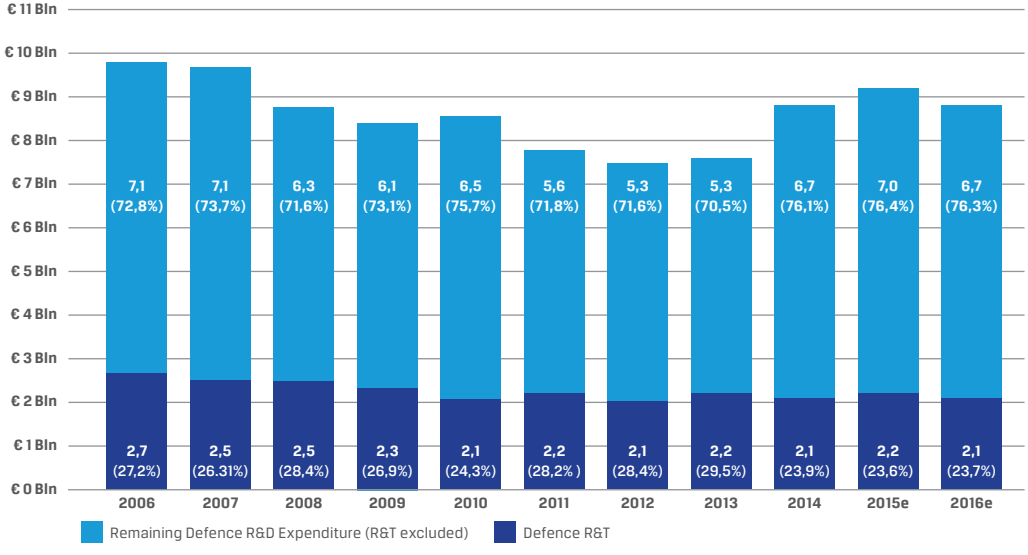
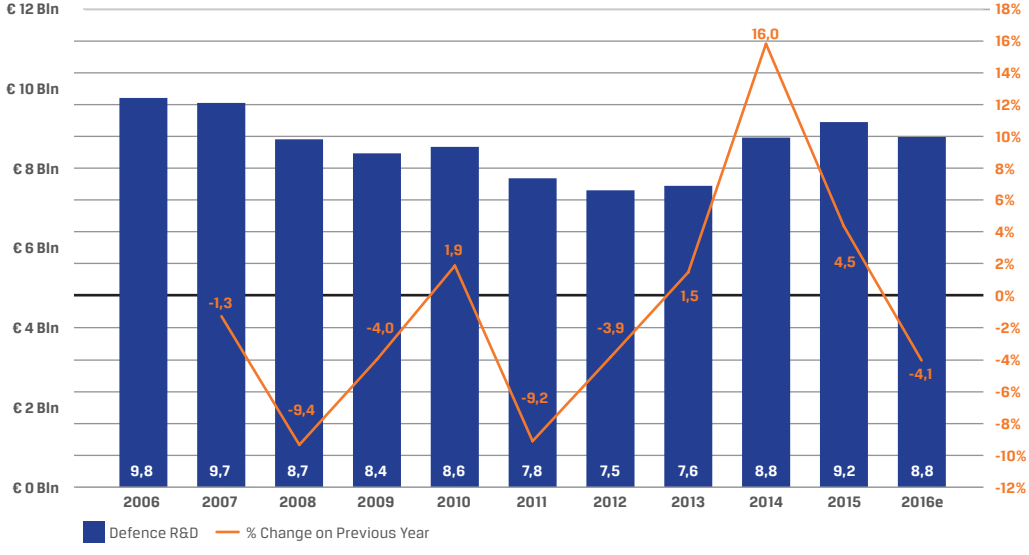


2015-2016 defence R&T is estimated based on 2014 data, since not all Member States reported their R&T expenditure in 2015 and 2016.

5.3 Defence R&D Expenditure: Absolute Values and Percentage Change on Previous Year



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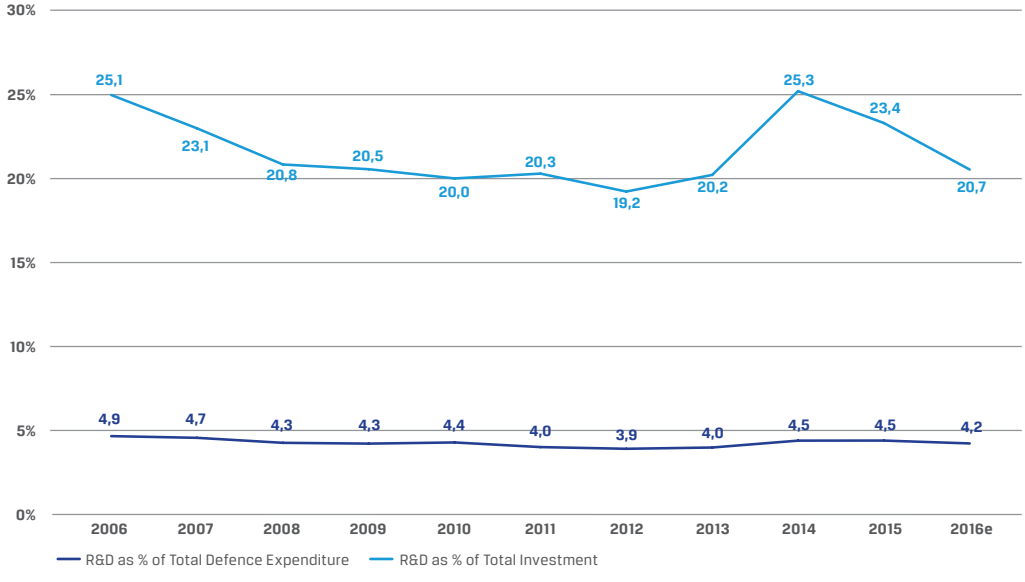

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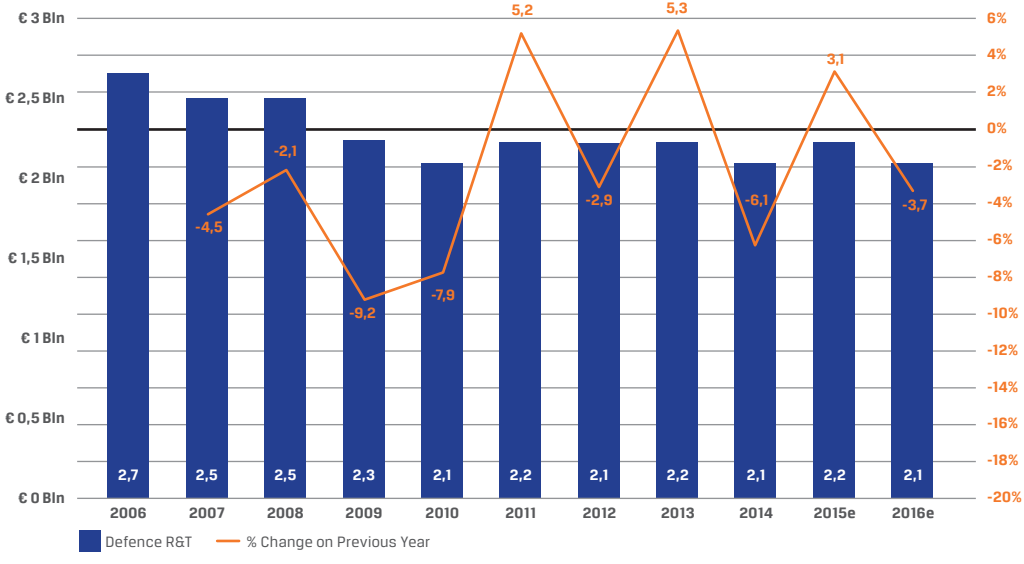

2015-2016 defence R&T is estimated based on 2014 data, since not all Member States reported their R&T expenditure in 2015 and 2016.

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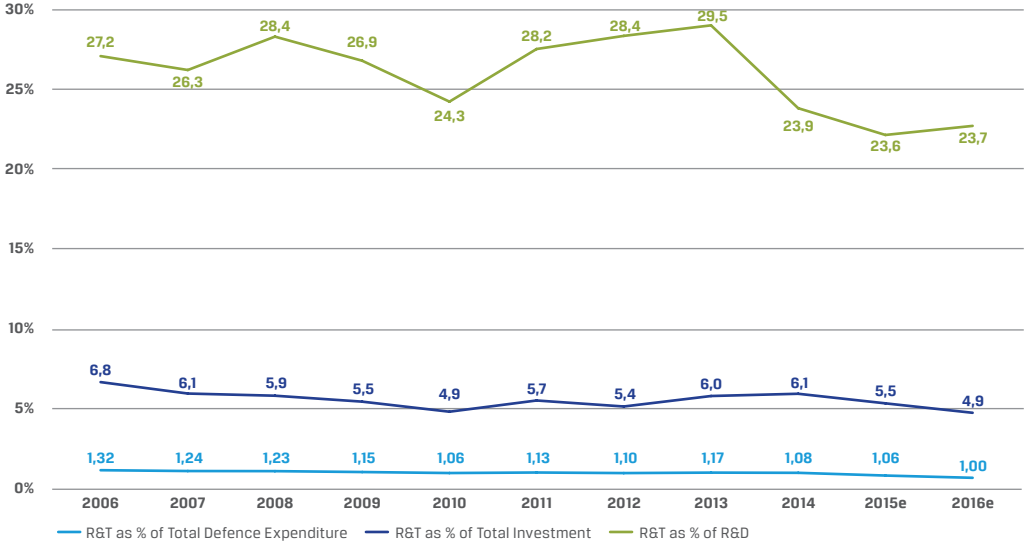
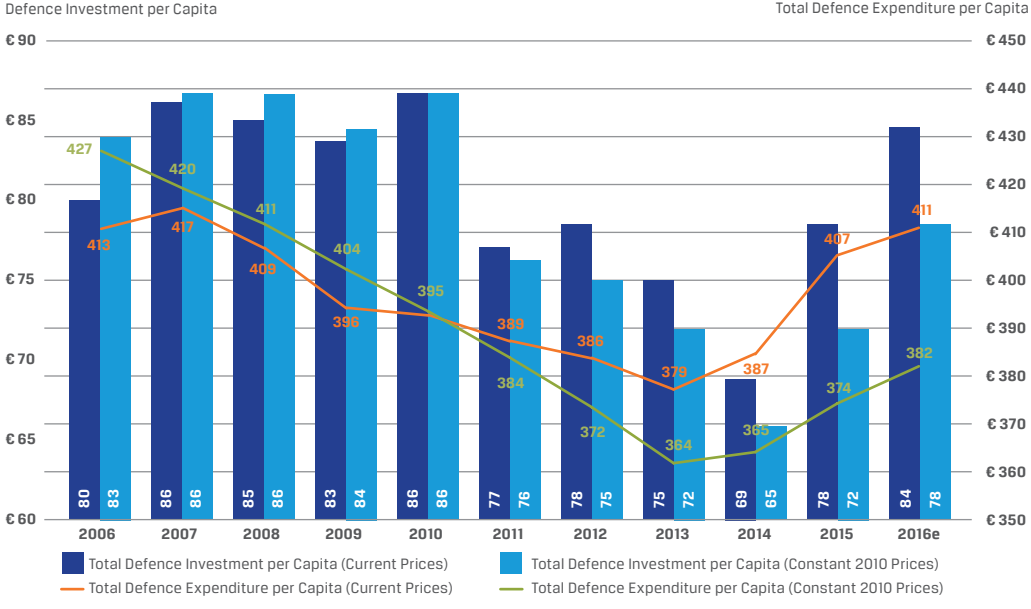


2015-2016 defence R&T is estimated based on 2014 data, since not all Member States reported their R&T expenditure in 2015 and 2016.

5.7 Total Defence Expenditure and Investment per Capita (Current and Constant 2010 Prices)



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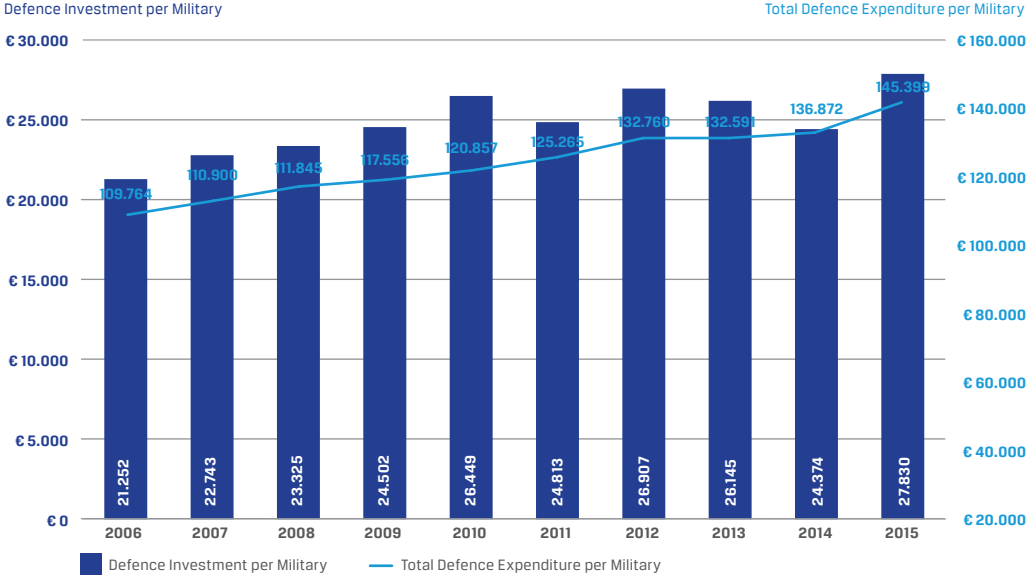

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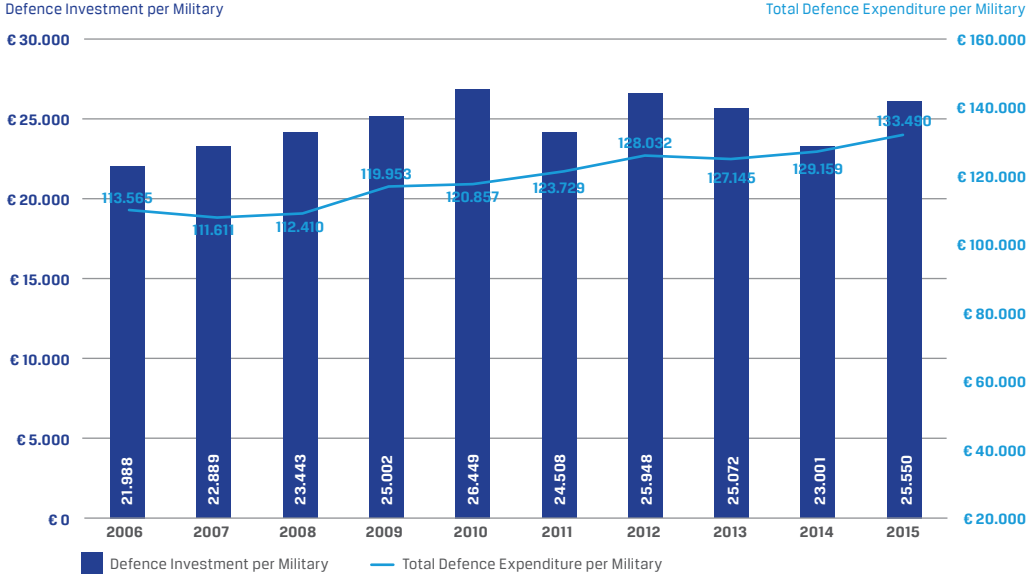


5. DEFENCE INVESTMENT

Defence investment comprises defence equipment procurement expenditure – traditionally responsible for the largest share of investment expenses of all EDA MS – and defence Research & Development (R&D) expenditure, which also includes defence Research and Technology (R&T) expenditure.

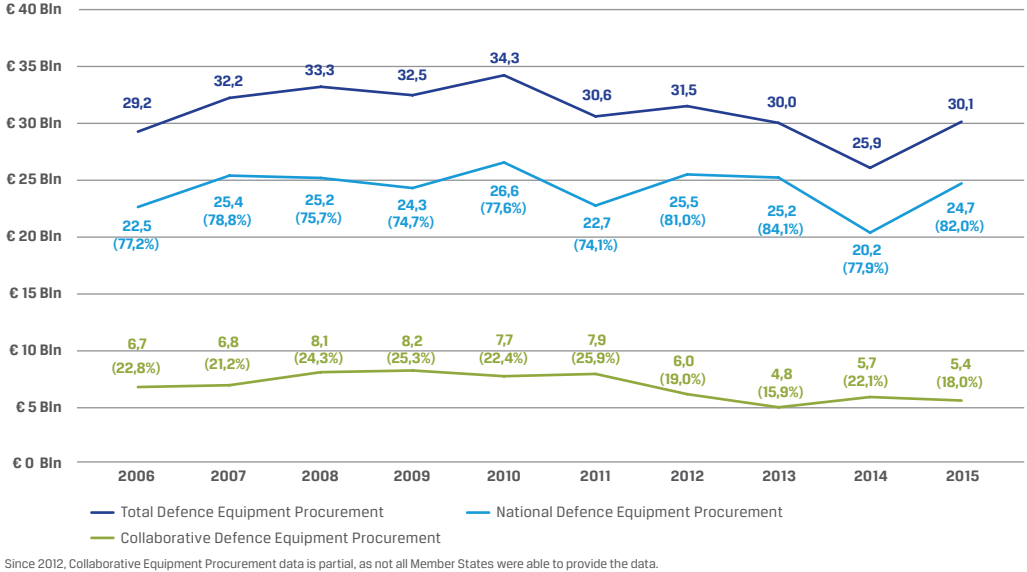
Defence equipment procurement, accounting for 75% to 80% of the total defence investment, was the main driving force behind the developments of the latter. Despite small annual fluctuations, expenditure earmarked for equipment procurement has been increasing since 2006 and reached its peak in 2010 with €34,3 billion. The total defence investment peaked that same year at €42,9 billion, in contrast to the total defence expenditure, which was still on a decline. Both equipment procurement expenditure and total defence investment have been decreasing since then to their respective lowest levels of €25,9 billion and €34,7 billion in 2014. This was again to the contrary of the total defence spending, which increased for the first time that year, after a six-year-long decline. In 2015, defence equipment procurement increased by over 16%, compared to the previous year, to €30,1 billion, and it is estimated to have increased by another 12% in 2016 to €33,7 billion.

R&D expenditure, accounting for the remaining 20% to 25% of the total defence investment, has been decreasing annually from 2006 to 2012, except for a small increase (+1,9%) in 2010. As a result, R&D expenditure in 2012 was at its lowest level, amounting to €7,5 billion, 24% lower than its 2006 value. During the next three years, 2013-2015, the EDA MS defence R&D expenditure was increasing, most notably in 2014, when it jumped by 16%. In 2015, it grew by another 4,5% to €9,2 billion, while in 2016, it is estimated to have decreased by 4%. During the period 2006-2015, R&D accounted for 4% to 5% of the total defence expenditure . The lowest share – 3,9% – was recorded in 2012, the year when R&D part in the total defence investment was also the lowest (19,2%).

In 2006, defence R&T expenditure was €2,7 billion and it has been decreasing since then (except for the minor increases in 2011, 2013 and 2015) to €2,1 billion in 2016. During this period, the total defence R&T expenditure decreased by 22%. 2015 and 2016 defence R&T figures are estimated based on 2014 data, since not all EDA MS reported their defence R&T expenditure for these years.

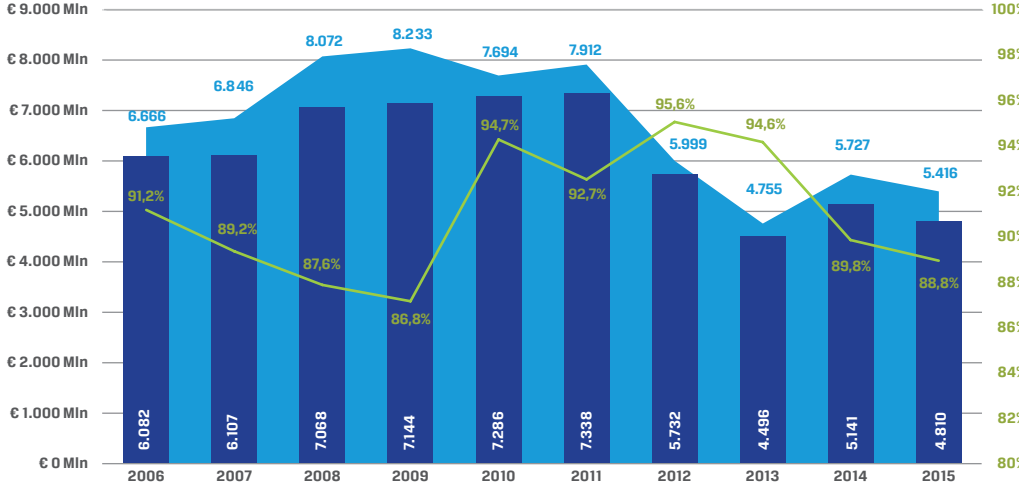
6. COLLABORATIVE INVESTMENT

6.1 National and Collaborative Defence Equipment Procurement: Absolute Values and Percentage Shares of Total Equipment Procurement



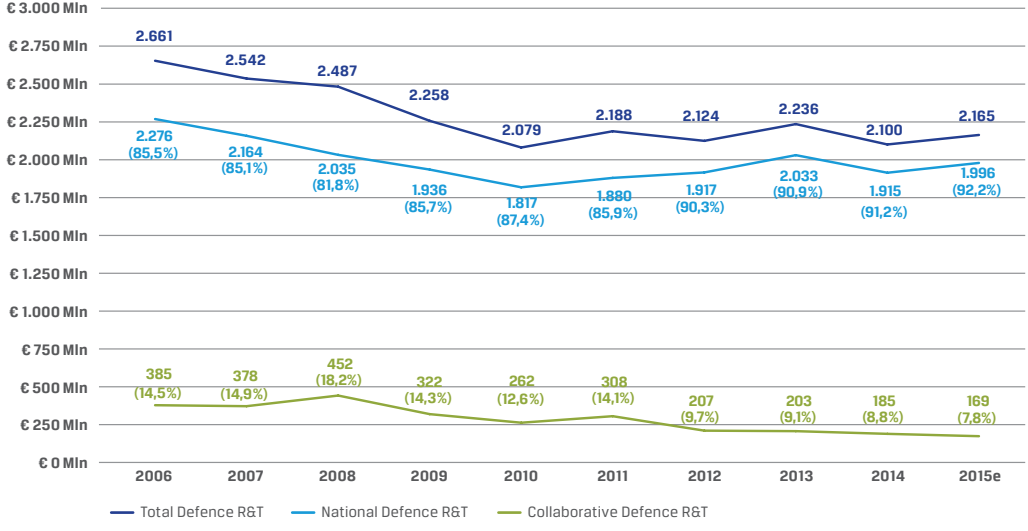
Since 2012, Collaborative Equipment Procurement data is partial, as not all Member States were able to provide the data.

6.2 European Collaborative Defence Equipment Procurement: Absolute Values and Percentage Shares of Total Collaborative Defence Equipment Procurement



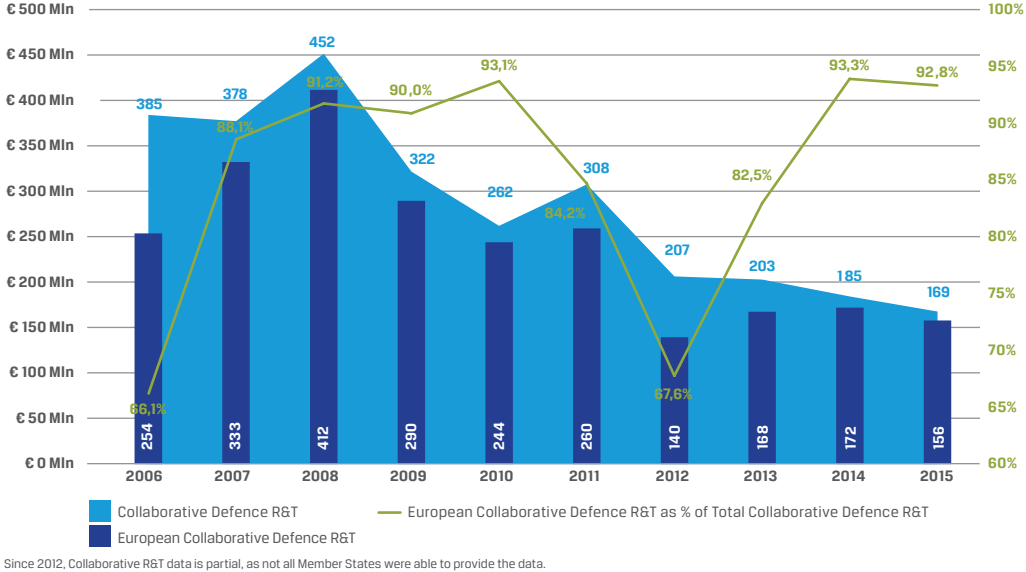
Since 2012, Collaborative Equipment Procurement data is partial, as not all Member States were able to provide the data.

6.3 National and Collaborative Defence R&T: Absolute Values and Percentage Shares of Total Defence R&T



Since 2012, Collaborative R&T data is partial, as not all Member States were able to provide the data. 2015 total defence R&T is estimated based on 2014 data, since not all Member States reported their R&T expenditure for that year.

6.4 European Collaborative Defence R&T: Absolute Values and Percentage Shares of Total Collaborative Defence R&T



Since 2012, Collaborative R&T data is partial, as not all Member States were able to provide the data.

6. COLLABORATIVE INVESTMENT

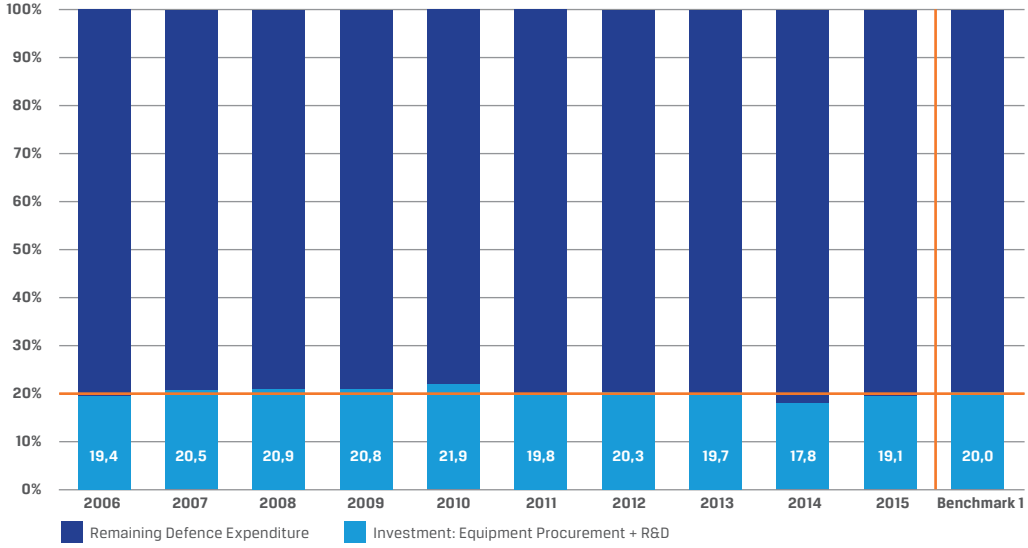
The difficulty of some EDA MS to provide collaborative defence equipment procurement and R&T data has resulted in EDA's inability to compile and present the EDA MS collaborative spending at the aggregate level. It is, therefore, highlighted that since 2012, the aforementioned data is only presented as part of the EDA defence data gathering project, but they do not represent a comprehensive picture of the EDA MS respective expenditure.

Collaborative defence equipment procurement share in the total defence equipment procurement expenditure of the reporting EDA MS ranged from the lowest of 18,0% in 2015 to the highest of 25,9% in 2011. The European collaboration constituted the major component of the total collaborative procurement expenditure, ranging between 86,8% (2009) and 95,6% (2012), and in 2015, it accounted for 88,8%.

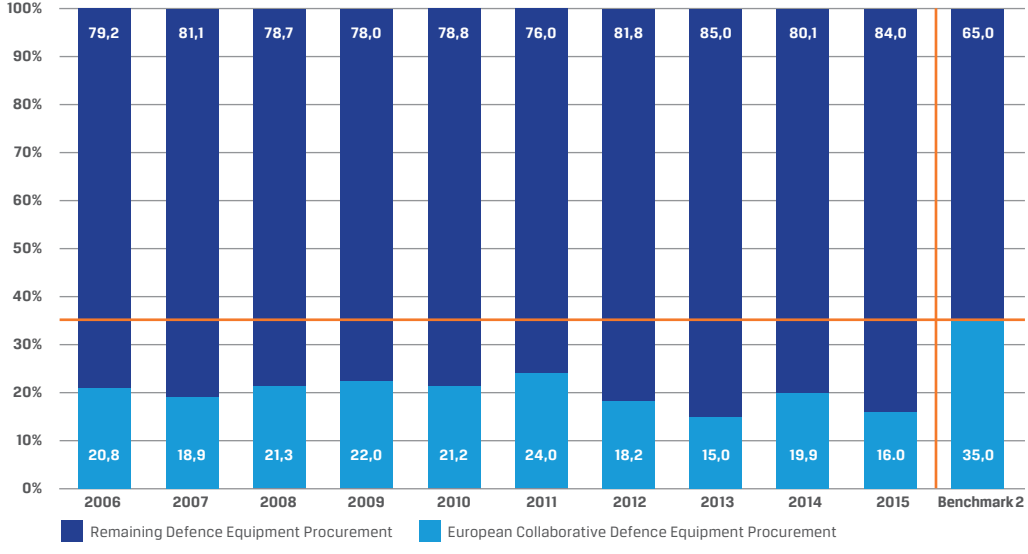
It is estimated that collaborative defence R&T as a proportion of the total defence R&T expenditure was the lowest in 2015, amounting to 7,8%, while its highest share of 18,2% was observed in 2008. Out of the total collaborative defence R&T expenditure, the majority was European collaboration, covering, on average, close to 90% throughout the decade. The exception was the years 2006 and 2012, when the respective shares amounted to 66% and 68%. In 2015, almost 93% of the total collaborative defence R&T was done at the European level.

7. COLLECTIVE BENCHMARKS

7.1 Benchmark 1: Equipment Procurement (including R&D/R&T): 20% of the Total Defence Spending

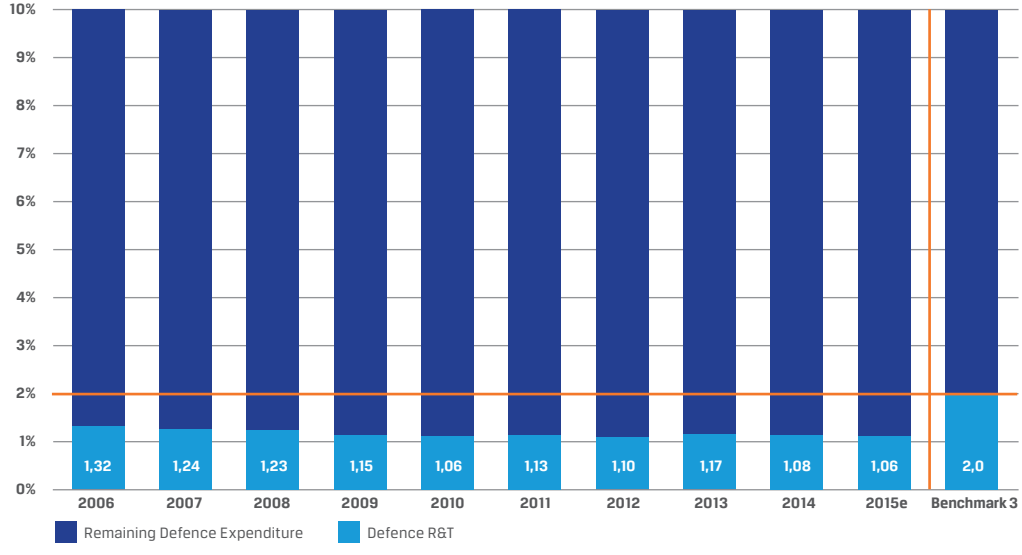


7.2 Benchmark 2: European Collaborative Equipment Procurement: 35% of the Total Defence Equipment Spending



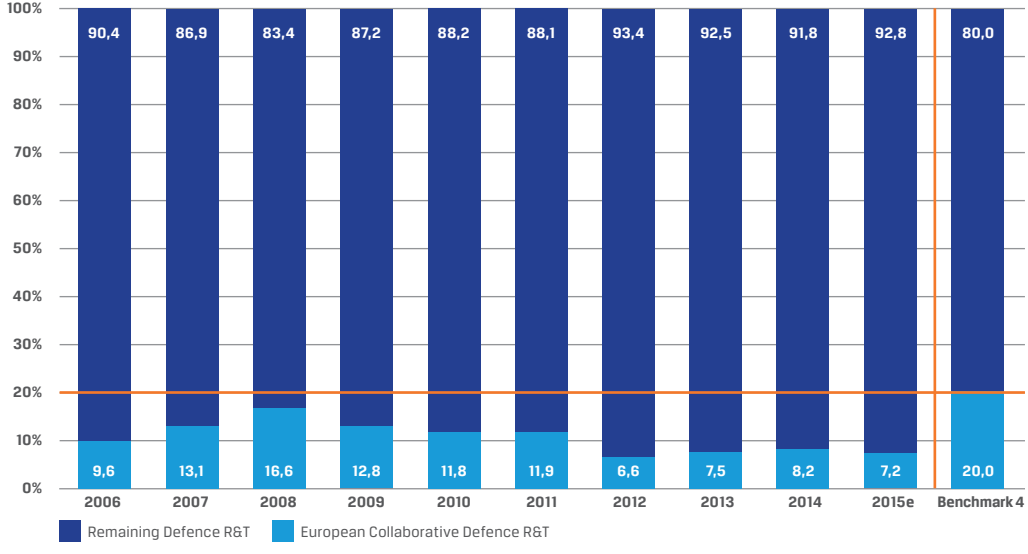
Since 2012, Collaborative Equipment Procurement data is partial, as not all Member States were able to provide the data.

7.3 Benchmark 3: Defence R&T: 2% of the Total Defence Spending



2015 defence R&T is estimated based on 2014 data, since not all Member States reported their R&T expenditure for that year.

7.4 Benchmark 4: European Collaborative Defence R&T: 20% of the Total Defence R&T Spending



Since 2012, Collaborative R&T data is partial, as not all Member States were able to provide the data. 2015 total defence R&T is estimated based on 2014 data, since not all Member States reported their R&T expenditure for that year.

7. COLLECTIVE BENCHMARKS

In 2007, EDA Member States agreed on a set of four collective benchmarks for investment. These benchmarks are collective and they apply to the total sum spent by all EDA MS together. There is no obligation in terms of timelines or translation of these benchmarks into national targets.

Since 2012, EDA is no longer able to measure progress against two of the four collective benchmarks referring to European collaborative expenditure (Benchmark 2: European collaborative equipment procurement as a percentage of the total defence equipment procurement and Benchmark 4: European collaborative defence R&T as a percentage of the total defence R&T), as some Member States are unable to provide collaborative expenditure figures due to their inherent accounting limitations. For this reason, the collective results for these benchmarks, based on the available data, are only presented graphically with no further analysis.

Benchmark 1: Equipment procurement (including R&D/R&T): 20% of the total defence spending.
This is the only benchmark that has been met or nearly met (>19%) during the decade 2006-2015, with the exception of 2014, when it dropped to 17,8%, the lowest share to date. The highest proportion was achieved in 2010, when defence investment accounted for almost 22% of the total defence expenditure.

Benchmark 2: European collaborative equipment procurement: 35% of the total defence equipment spending.

Benchmark 3: Defence R&T: 2% of the total defence spending.
The collective target set for R&T expenditure has been the most challenging one, as the desirable level relative to the total defence spending has never been met during the decade. More than that, the highest share – 1,32% – achieved collectively by the EDA MS in 2006 is estimated to have reduced to 1,06% in 2015.

Benchmark 4: European collaborative defence R&T: 20% of the total defence R&T spending.

8. NOTES

EDA receives data from the Ministries of Defence of its 27 Member States (MS). Occasionally, national data is revised, and this may have an impact on the overall aggregated figures. Please check **Defence Data Portal** on the EDA's website regularly for updates: http://eda.europa.eu/info-hub/defence-data-portal

Data in this booklet is at aggregate level, and it may differ from other sources due to, inter alia, rounding. Due to rounding, some totals may not correspond with the sum of the separate figures. For some spending categories, a margin of error exists, as accounting systems of the MS differ. Nevertheless, the data provided in the booklet represents the best publicly available figures.

Data on GDP, general government expenditure and population, as well as price deflator, is taken from the annual macro-economic database of the European Commission's Directorate-General for Economic and Financial Affairs (DG ECFIN). This data is revised twice a year, and thus may have an impact on some of the data calculated by EDA.

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9. DEFINITIONS

Data collection is based on the list of indicators and their definitions approved by the Agency's Ministerial Steering Board. The definitions provided below have been shortened and edited for the purpose of this publication.

Total defence expenditure: total Ministry of Defence (MoD) expenditure plus other defence-related expenditure allocated by other governmental institutions (other Ministries' special budgetary lines).

Civilian personnel: the authorised strength of all civilian personnel on 31 December of each year employed by all military establishments and the armed forces.

Military personnel: the authorised strengths of all active military personnel on 31 December of each year.

Personnel expenditure: all personnel-related expenditure for military and civilian personnel, including from non-MoD sources.

Defence equipment procurement expenditure: expenditure for all major equipment categories.

Research and development (R&D): expenditure for any R&D programmes up to the point where expenditure for production of equipment starts to be incurred.

Research and technology (R&T): expenditure for basic research, applied research and technology demonstration for defence purposes. It is a subset of R&D.

Investment: defence equipment procurement and R&D (including R&T) expenditure.

Operation and maintenance (O&M) expenditure: covers O&M (spare parts and supplies) of major equipment, other equipment and supplies, and costs related to maintaining utilities and infrastructure.

Other expenditure: all other expenditure that cannot be attributed to any of the above expenditure categories.

European collaboration (a subset of collaboration): agreement between at least two EU Member States' Ministries of Defence for project or programme contracts. Possible non-EU partners' share in such contracts is lower than 50%.

Other collaborative expenditure: all collaborative expenditure that does not fall under the European collaboration definition.

Average number of troops deployed: average number of troops (all Armed Forces) deployed throughout the year for crisis management operations.

Deployable (land) forces: number of (land) forces troops structured, prepared, and equipped for deployed operations.

Sustainable (land) forces: number of (land) forces troops undertaking or planned for sustained operations (mid- to long-term). It is a subset of Deployable (land) forces.

Operations costs (deployed): all national expenditure to cover incremental (extra) costs linked to deployed operations outside the EU Member States' territory.

NOTES

EUROPEAN DEFENCE AGENCY

NOTES


BREAKDOWN OVERVIEW
550
450
400
350
300
250
200
0
Scandinavia
UK
USA
MENA
ASIA
Baltic states
Australia
Europe
America
Asia
Australia
Male
Female
Breakdown summary:
Clear indicators show a year-on-year growth factor in excess of the marginal value.
The prognosis as such indicates a robust financial framework which would suggest
room for agressive expansion on several key markets. Diversification of the
commodity portfolio will lessen risk exposure to currency fluctuations, and by
securing domestic risk companies in emerging markets, market share dominance
can be reached within 14 months.
The demographic breakdown shows a product cohorhation directed towards the male
population, something which is likely to change on the Asian markets where the
current portfolio has shown an equal attractiveness to both sexes. This paradigm
should inform our local branding exercises.
The comparable market growth charts shows Europe and Australia to be
demonstrating markets, while America and Asia remain growth areas. Latin America
and several African nations remain interesting targets for a globally scaled product
deployment.
31
8
48
64
136

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