

Fund Processing Standardisation
Annual Report
on
automation and standardisation of
cross-border funds orders in 2018

10 July 2019

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Background

Since May 2009, EFAMA & SWIFT publish on a regular basis reports on trends in standardisation and automation rates of fund orders received by transfer agents (TAs) in Luxembourg and Ireland.

This latest version of the Fund Processing Standardization publication is the full-year 2018 report. It combines the Luxembourg and Ireland data into one single cross-border fund processing report providing

- a. an aggregated view on both fund processing centres together;
- b. a detailed overview per fund processing centre (Luxembourg and Ireland separately); and
- c. a regional perspective of fund processing STP rates per fund processing centre.

This ongoing initiative has the goal to inform about industry's advancements toward increased automation of fund orders and the use of ISO standards, as recommended by EFAMA¹. The audience are institutions involved in fund processing, as well as the European Commission, the European Parliament and other interested stakeholders.

Besides the reporting of order volumes and automation rates, this report contains an analysis on the regional split of order volumes (by order giver location). The regional figures are provided in each market focus section as they are based on the underlying sub-set of survey respondents in these markets. In addition, the report provides statistics on the automated links newly implemented by the TAs in Luxembourg and Ireland in 2018.

EFAMA and SWIFT publish two Fund Processing Standardisation reports per year, which are available on both company websites.

¹ EFAMA's best practice recommendations are available on both SWIFT and EFAMA's websites. The first set of recommendations were published in February 2005. A new report was published on 24 March 2011, consolidating the recommendations published in 2005 and updated in 2008, and extending the recommendations in two key areas, i.e. Transfers and Corporate Actions.

Report Highlights

A. Automation and standardisation of fund orders in Luxembourg and Ireland

1. **Survey coverage: 29 transfer agents (TAs)** contribute to the survey
 - a. **20 Luxembourg-based TAs**
 - b. **9 Ireland-based TAs**

With an estimated market coverage of 80% of the cross-border market volumes in Ireland and an estimated market coverage of 75% in Luxembourg.
2. **Total automation rate²** of orders during Q4 2018 reached **90.4%**; this represents an increase of 2.4 percentage points compared to Q4 2017 (**88%**).
3. **ISO automation rate³** reached **58%** in Q4 2018 compared to **55.5%** in Q4 2017, an increase of 2.5 percentage point.
4. In terms of number of new automated links setup by TAs with new order givers, **ISO adoption is the first choice**. Indeed, survey contributors have reported 234 new ISO automated links implemented during 2018.
5. The **ISO messaging standard adoption** rate, in line with the EFAMA recommendation in favour of a single ISO standard to be used in the funds industry, continues to strengthen to the detriment mainly of manual orders.
6. The **order volumes** processed by the 29 survey contributors reached **39 million orders** in 2018.
7. The **29 surveyed TAs manually processed 4.1 million orders in 2018**, compared to 4.9 million in 2017. Manual process rates decreased by 2.4 percentage points to 9.6% in Q4 2018 (against 12% in Q4 2017).

Fund orders automation and standardisation progress overview

GLOBAL OVERVIEW	Q4 2016	Q4 2017	Q4 2018	Change 17 - 18
Manual orders	13.3%	12.0%	9.6%	-2.4%
ISO automated orders	53.4%	55.5%	58%	2.5%
Proprietary FTP orders	33.3%	32.5%	32.4%	-0.1%
Total automated	86.7%	88.0%	90.4%	2.4%

Table 1 – Automation and standardisation rate evolution (Q4 data)

² The ‘total automation rate’ is the sum of the ‘ISO automation rate’ + the ‘proprietary formatted ftp’ rate. This is based on combined Luxembourg and Ireland figures.

³ The ‘ISO automation rate’ corresponds to the standardisation rate, i.e. the rate of automated orders using an ISO format (ISO 20022 or ISO 150222 ‘fund template’).

B. Automation and standardisation of fund orders in Luxembourg

1. **Survey coverage: 20 TAs contributed to the survey in 2018** (8 in-house and 12 third-party TAs).
2. The **total automation rate of orders** processed by Luxembourg TAs reached **89%** during Q4 2018, compared to 85.4% in Q4 2017.
3. The **ISO automation rate** reached 72.2% in Q4 2018 compared to 69.8% in Q4 2017, an increase of 2.4 percentage points. The rate of proprietary FTP increased to 16.8% in Q4 2018 against 15.6% in Q4 2017, and the manual orders decreased to 11% in Q4 2018 compared to 14.6% in Q4 2017.
4. The **order volumes** processed by Luxembourg TAs reached **24.3 million** in 2018 compared to 23.9 million in 2017. The number of orders processed manually reached 3 million in 2018 compared to 3.6 million in 2017.
5. The **ISO automation rate** increased in Americas and APAC regions in Q4 2018 to 49.6% and 51.2%, respectively (compared to 46.6% and 45.6% in Q4 2017). In the EMEA region, the ISO automation rate decreased to 65.8% in Q4 2018 (compared to 67% in Q4 2017).

Fund orders automation and standardisation progress overview- Luxembourg

GLOBAL OVERVIEW	Q4 2016	Q4 2017	Q4 2018	Change 17 - 18
Manual orders	15.6%	14.6%	11%	-3.6%
ISO automated orders	68.3%	69.8%	72.2%	2.4%
Proprietary FTP orders	16.1%	15.6%	16.8%	1.2%
Total automated	84.4%	85.4%	89%	3.6%

Table 2 – Luxembourg automation and standardisation rate evolution (Q4 data)

C. Automation and standardisation of fund orders in Ireland

1. **Survey coverage: 9 TAs surveyed** (9 third-parties TAs).
2. The **total automation rate** of orders processed by Irish TAs reached **92.8%** in Q4 2018 compared to 92.1% in Q4 2017, an increase of 0.7 percentage points.
3. The percentage of automated orders based on **ISO messaging standards** increased to **34.7%**, in Q4 2018, from 32.5% in Q4 2017. The **rate of proprietary FTP orders** decreased to **58.1%** in Q4 2018 (against 59.6% in Q4 2017). The manual orders decreased from 7.9% in Q4 2017 to 7.2% in Q4 2018.
4. The **order volumes** processed by Irish TAs reached **14.7 million** in 2018, compared to 14.9 million in 2017.
5. The **ISO automation rate increased** in the EMEA region from 12.4% in Q4 2017 to 14.9% in Q4 2018. In the APAC and Americas regions, the ISO automation rate decreased in Q4 2018 to 4.7% and 14%, respectively (compared to 26.6% and 18.2% in Q4 2017).

Fund orders automation and standardisation progress overview – Ireland

GLOBAL OVERVIEW	Q4 2016	Q4 2017	Q4 2018	Change 17 - 18
Manual orders	9.4%	7.9%	7.2%	-0.7%
ISO automated orders	27.8%	32.5%	34.7%	2.2%
Proprietary FTP orders	62.8%	59.6%	58.1%	1.5%
Total automated	90.6%	92.1%	92.8%	0.7%

Table 3 – Ireland automation and standardisation rate evolution (Q4 data)

A. Automation and standardisation of fund orders in Ireland and Luxembourg

A.1. Total order volume evolution

In 2018, 39 million orders have been processed by the 29 survey contributors across Ireland and Luxembourg. This represents an average volume of 3.25 million orders per month.

(in millions)	2016	2017	2018
Total number of orders	34	38.8	39
Monthly average	2.82	3.23	3.25

Table 4 – Total order volume evolution 2016 - 2018

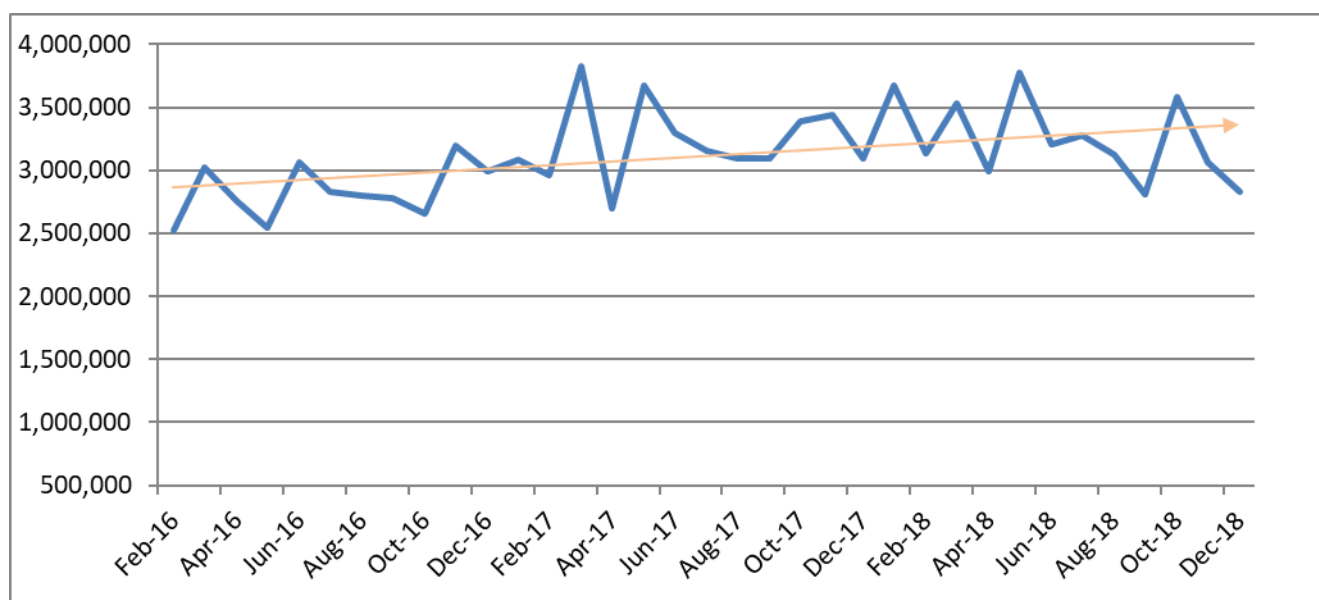


Figure 1 – Total order volume evolution 2016 - 2018

A.2. Total automation and standardisation rates

Total automation rate

The total automation rate reached 90.4% in Q4 2018, compared to 88% in Q4 2017. This increase was accompanied with a decrease in the manual processing rate (from 12% in Q4 2017 to 9.6% in Q4 2018), mainly to the benefit of ISO automation.

Total automation rate	Q1	Q2	Q3	Q4
2016	85.7%	84.4%	86.1%	86.7%
2017	87.2%	86.6%	87.3%	88.0%
2018	88.4%	89.4%	89.5%	90.4%

Table 5 – Total automation rate evolution 2016 - 2018 (by quarter)

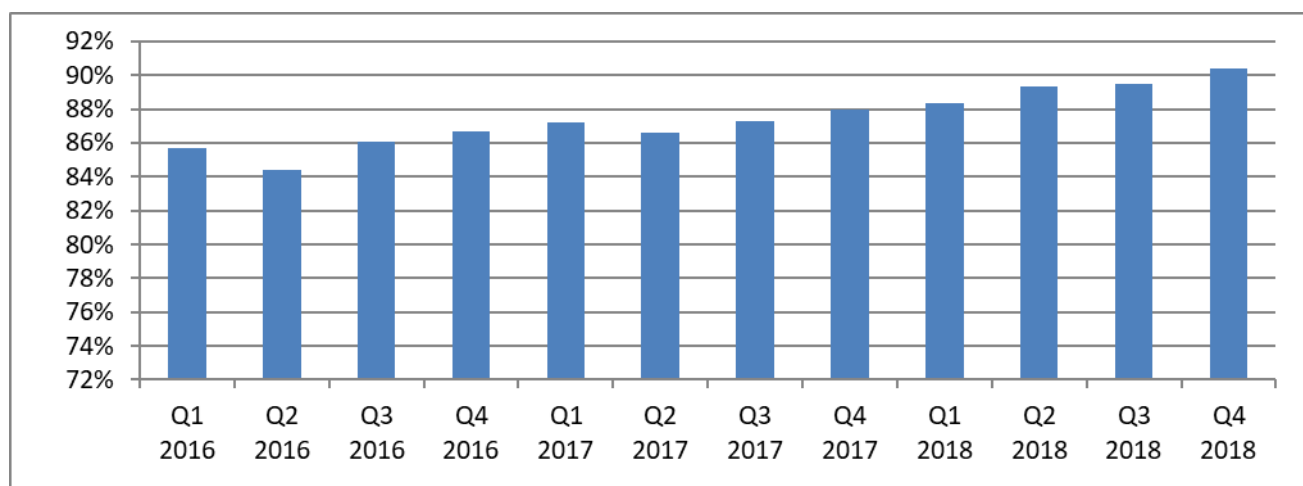


Figure 2 – Total automation level evolution 2016 - 2018 (by quarter)

Total standardisation rate

The use of the ISO messaging standard increased by 2.5 percentage points in the course of 2018 to reach 58% in Q4 2018 (against 55.5% in Q4 2017).

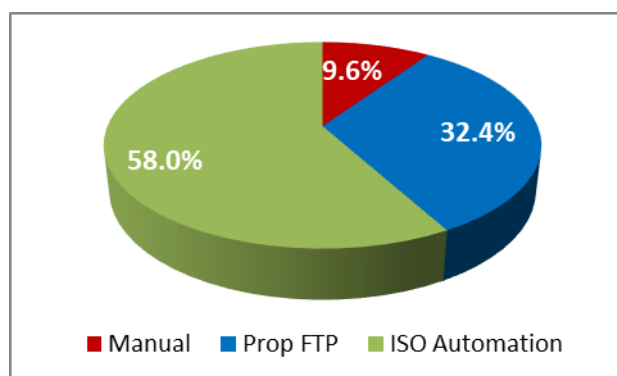


Figure 3 – Total fund order processing rates (Q4 2018)

The graph below shows the various rates evolution since the beginning of 2016.

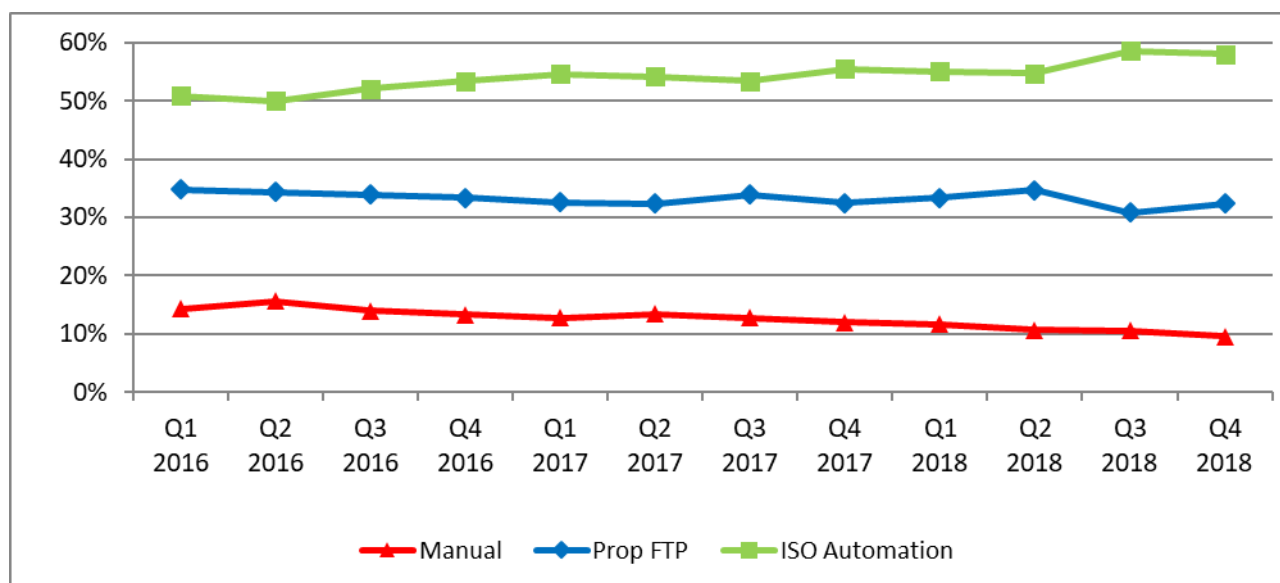


Figure 4 – Total fund order processing rates evolution 2016 – 2018 (by quarter)

The adoption of proprietary FTPs decreased to 32.4% in Q4 2018 compared to 32.5% in Q4 2017, and the share of manual orders fell from 12% in Q4 2017 to 9.6% in Q4 2018. The above trends show a continuous increase of the ISO standards adoption, and a continuous decrease of manual orders.⁴

The table below provides detailed rates per quarter.

ISO automation rate	Q1	Q2	Q3	Q4
2016	50.9%	50.0%	52.1%	53.4%
2017	54.6%	54.2%	53.4%	55.5%
2018	55.1%	54.7%	58.6%	58.0%
Proprietary FTP rate	Q1	Q2	Q3	Q4
2016	34.8%	34.4%	34.0%	33.3%
2017	32.6%	32.4%	33.9%	32.5%
2018	33.3%	34.6%	30.9%	32.4%
Manual rate	Q1	Q2	Q3	Q4
2016	14.3%	15.6%	13.9%	13.3%
2017	12.8%	13.4%	12.7%	12.0%
2018	11.6%	10.6%	10.5%	9.6%

Table 6 – Total fund order processing rates evolution 2016 - 2018 (by quarter)

⁴ The reported share of “Total ISO” covers ISO 15022 and ISO 20022 messages. The migration programme from ISO 15022 fund messages into ISO 20022 fund messages is ongoing with the consequence that the ISO 20022 message will become the single ISO open market standard for fund messages, as recommended by EFAMA.

A.3. Number of new automated links set up in 2018

To better understand the automation trend, an additional survey was carried out in 2018 among 29 TAs to look at the number of **new automated links implemented** between January and December 2018 with new counterparties.

The surveyed TAs implemented new ISO links with 234 counterparties. Out of these new ISO links, 230 counterparties were previously using fax (representing 98% of all new links) and 1 used proprietary FTP files (0.4%). Brand new ISO links have been set up with the 3 (1.3%) remaining counterparties in 2018.

This result confirms that ISO standards remain widely favoured in the market as the most efficient automation option.

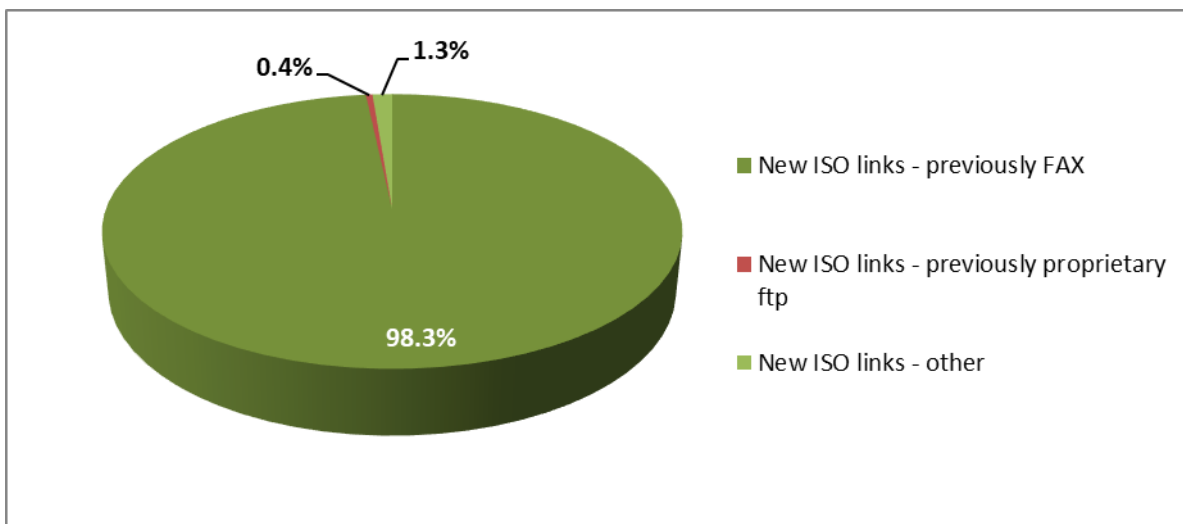


Figure 5 - New automated links launches (2018)

The new ISO adopters on the distribution side are mainly located in the EMEA region in The United Kingdom, Luxembourg, Sweden, Switzerland, Spain, but some were also set up in Germany, Italy, Poland. In APAC, new connections came primarily from Taiwan, Hong Kong and Singapore. In Americas, new connections came mainly from the United States.

B. Automation and standardisation of fund orders in Luxembourg

B.1. Luxembourg order volume evolution

In the course of 2018, the 20 Luxembourg survey contributors processed 24.3 million orders. This represented a monthly average of 2.02 million orders.

(in millions)	2016	2017	2018
Total number of orders	21.3	23.9	24.3
Monthly average	1.78	1.99	2.02

Table 7 – Luxembourg order volume evolution Luxembourg 2016 – 2018

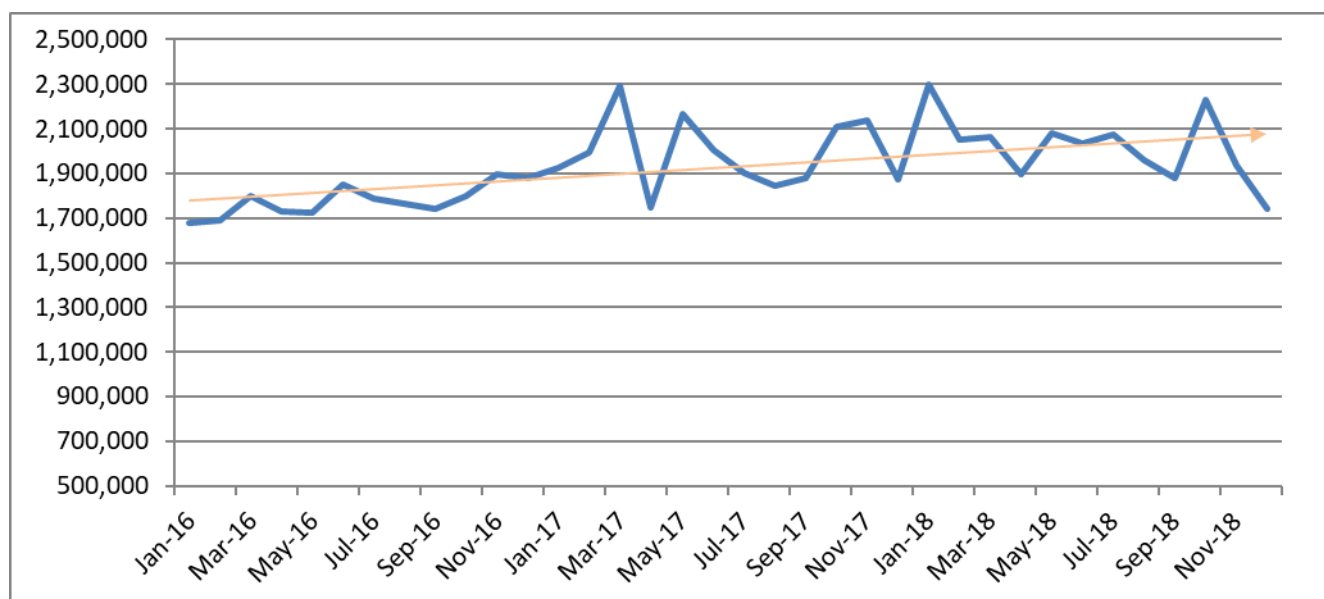


Figure 6 – Luxembourg order volume evolution 2016 - 2018

B.2. Luxembourg automation and standardisation rates

Luxembourg automation rate

The total automation rate reached 89% in Q4 2018, compared to 85.4% in Q4 2017.

Total automation rate	Q1	Q2	Q3	Q4
2016	83.7%	81.7%	83.8%	84.4%
2017	85.4%	84.0%	84.2%	85.4%
2018	86.2%	87.0%	88.1%	89.0%

Table 8 – Luxembourg total automation rate evolution 2016 - 2018 (by quarter)

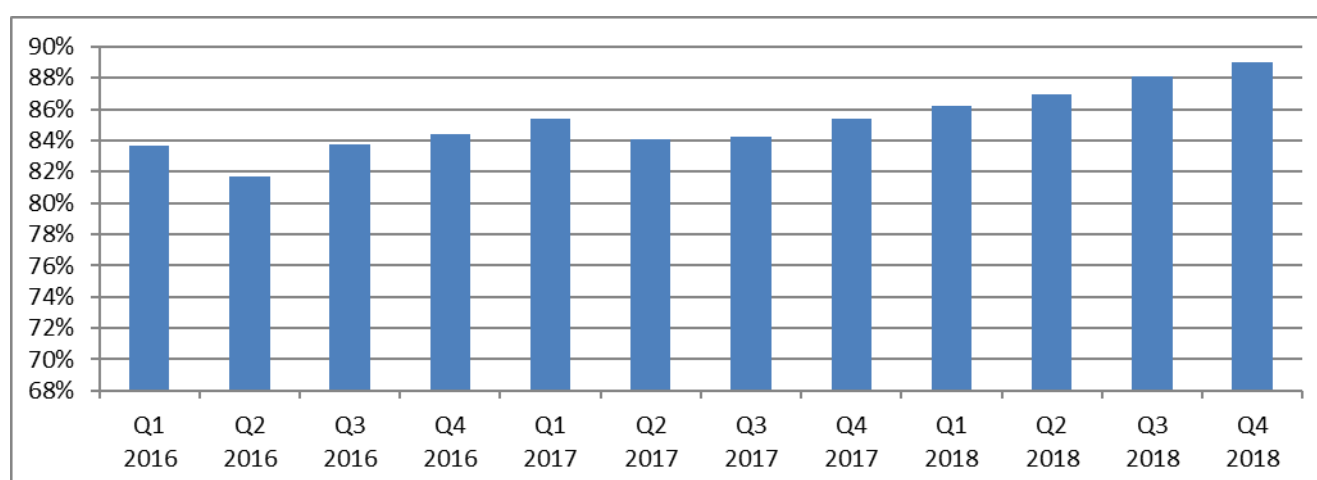


Figure 7 – Luxembourg automation level evolution 2016 - 2018 (by quarter)

Luxembourg standardisation rate

The use of ISO increased from 69.8% in Q4 2017 to 72.2% in Q4 2018, and the adoption of proprietary formats increased by 1.2 percentage points in Q4 2018. The share of manual orders decreased from 14.6% in Q4 2017 to 11% in Q4 2018.

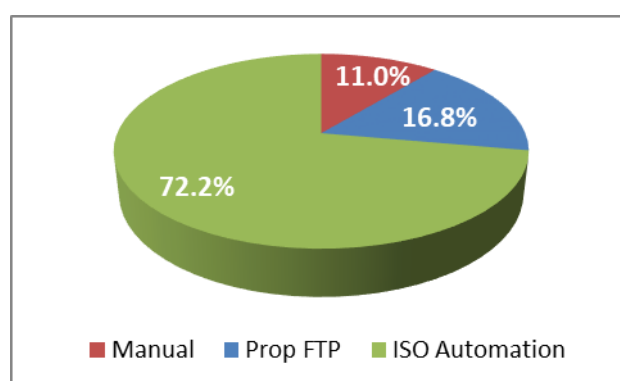


Figure 8 - Luxembourg fund order processing rates 2018 (Q4 2018)

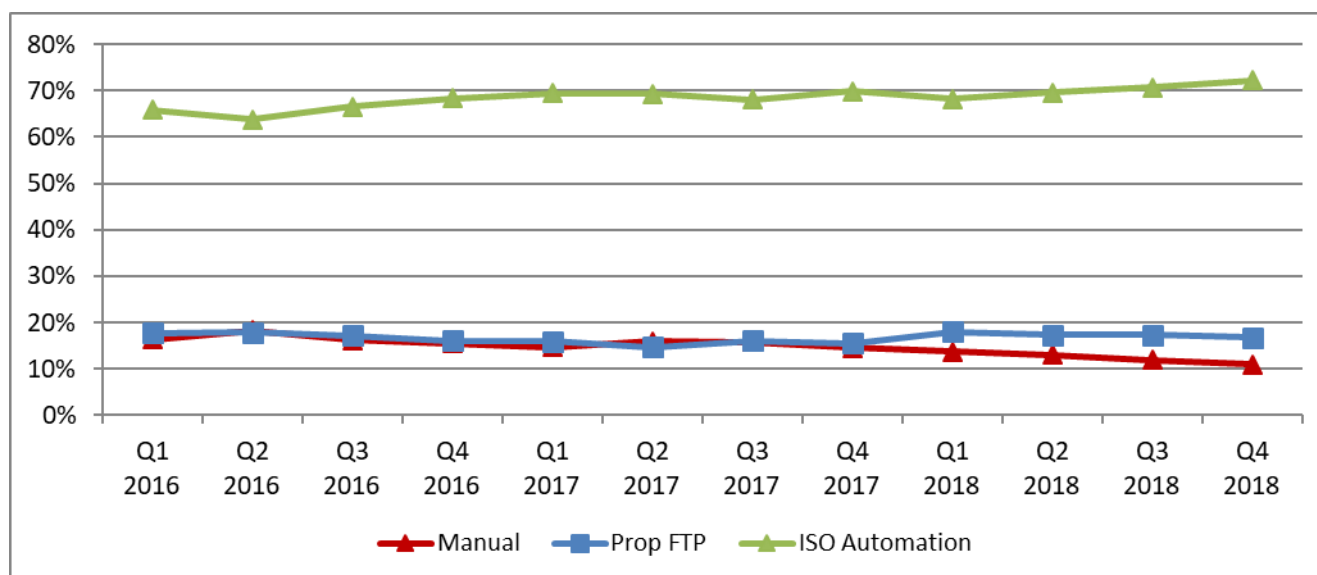


Figure 9 - Luxembourg fund order processing rates evolution 2016 - 2018

The table below provides detailed rates per quarter.

ISO automation rate	Q1	Q2	Q3	Q4
2016	65.9%	63.8%	66.6%	68.3%
2017	69.4%	69.4%	68.1%	69.8%
2018	68.2%	69.6%	70.7%	72.2%
Proprietary FTP rate	Q1	Q2	Q3	Q4
2016	17.8%	17.9%	17.2%	16.1%
2017	15.9%	14.7%	16.1%	15.6%
2018	18.0%	17.3%	17.4%	16.8%
Manual rate	Q1	Q2	Q3	Q4
2016	16.3%	18.3%	16.2%	15.6%
2017	14.6%	16.0%	15.8%	14.6%
2018	13.8%	13.0%	11.9%	11.0%

Table 9 – Luxembourg fund order processing rates evolution 2016 - 2018 (by quarter)⁵

⁵ In Q4 2018, the median for the Luxembourg total automation rate and the ISO automation rate was 88% and 73%, respectively, compared to 86% and 66%, in Q4 2017. The manual median rate decreased to 12% in 2018 (compared to 14% in Q4 2017). The median is the numeric value separating the higher half of a sample, from the lower half. The median has been calculated on the basis of 2018 volumes.

B.3. Luxembourg regional overview

Regional breakdown information is available from a subset of the Luxembourg survey contributors (14 out of 20) representing 12.9 million orders in 2018 or 53% of the volumes. The regional percentages are calculated on this subset.

Luxembourg regional split of volumes by order giver location

APAC-based order givers generated 25% of incoming order volumes in Luxembourg during Q4 2018. The percentage of orders from order givers in EMEA was 72% against 3% from Americas-based order senders.

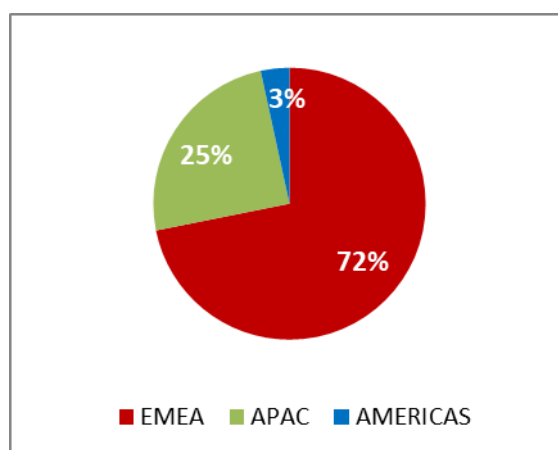


Figure 10 - Luxembourg order volumes per region (by order giver location - Q4 2018)

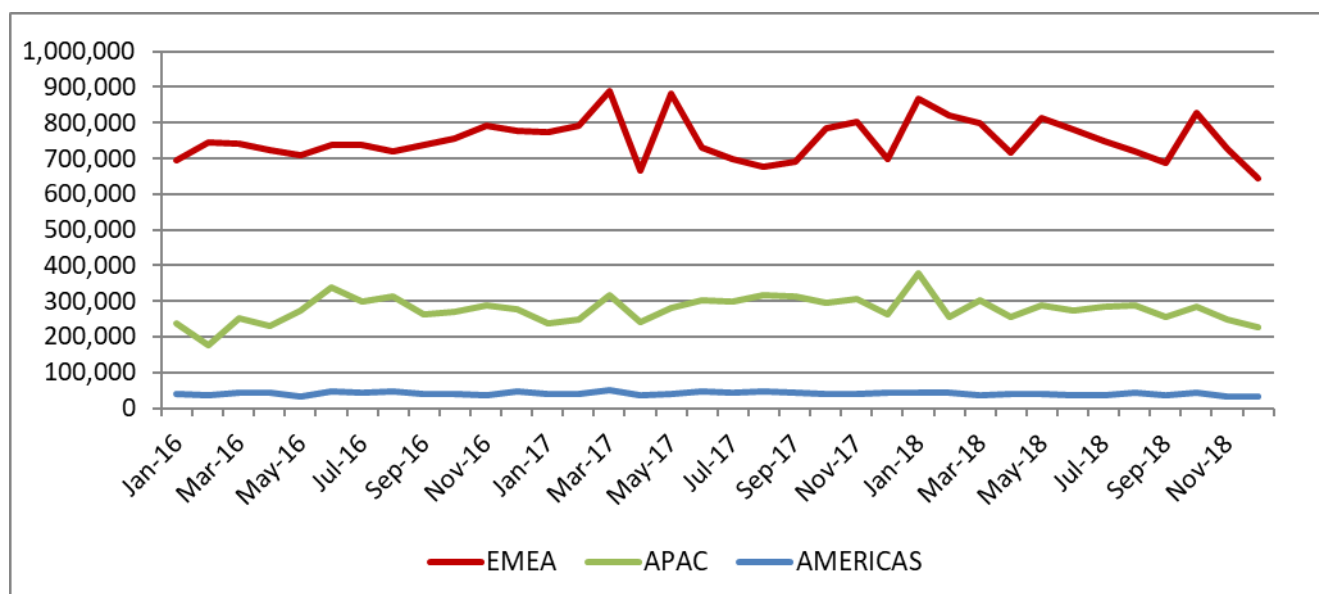


Figure 11 - Luxembourg order volumes evolution per region (2016 – 2018)

Luxembourg regional split of automation and standardisation rates

In APAC and Americas regions, the ISO automation rates respectively increased to 51.2% and 49.6% in Q4 2018 compared to 45.6% and 46.6% in Q4 2017. In EMEA region, the rate decreased from 67% in Q4 2017 to 65.8% in Q4 2018.

The total automation (ISO + proprietary) rate increased in all regions. In APAC the total automation increased from 76.9% in Q4 2017 to 81% in Q4 2018; in Americas it rose to 85.7% (compared to 82.4% in Q4 2017) and in EMEA, it went up to 88.8% (against 84.4% in Q4 2017).

	ISO automation			Total automation (ISO + proprietary formats)		
	EMEA	APAC	Americas	EMEA	APAC	Americas
Q4 2016	69.0%	46.0%	43.1%	87.0%	74.4%	74.6%
Q4 2017	67.0%	45.6%	46.6%	84.4%	76.9%	82.4%
Q4 2018	65.8%	51.2%	49.6%	88.8%	81.0%	85.7%

Table 10 – Luxembourg fund order automation rates evolution by region

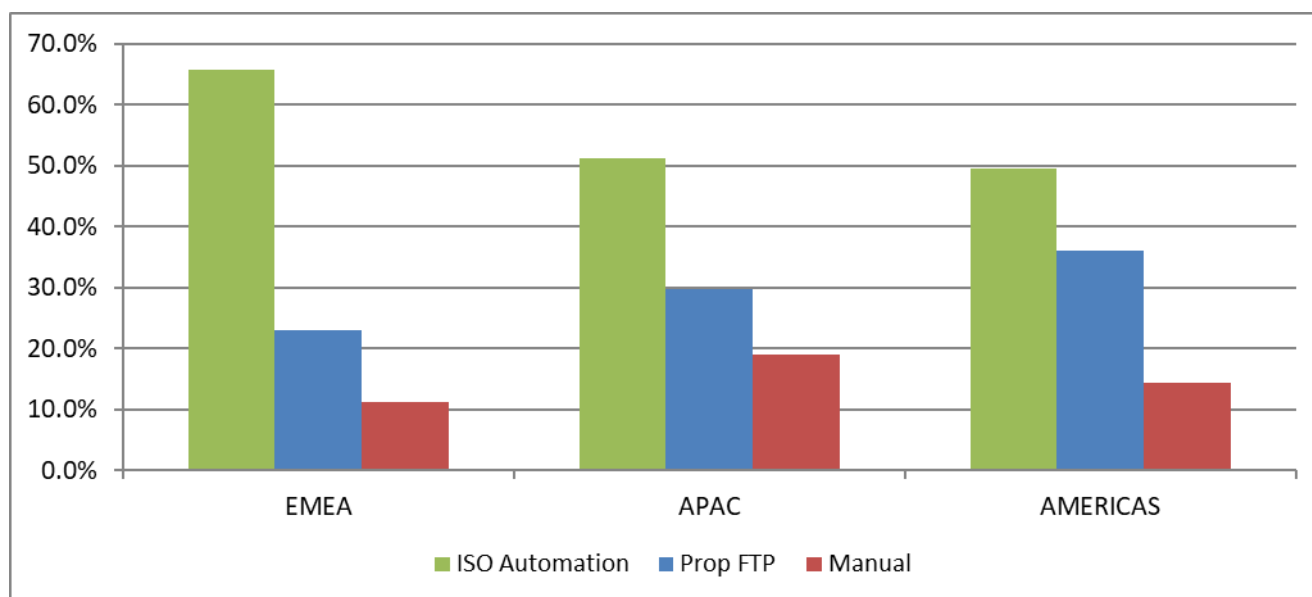


Figure 12 – Luxembourg fund order processing rates per region (Q4 2018)

C. Automation and standardisation of fund orders in Ireland

C.1. Ireland order volume evolution

In 2018, 14.7 million orders were processed by the 9 Irish survey contributors. This represented an average of 1.23 million monthly volume of orders.

(in millions)	2016	2017	2018
Total number of orders	12.5	14.9	14.7
Monthly average	1.04	1.24	1.23

Table 11 – Ireland order volume evolution 2016 - 2018

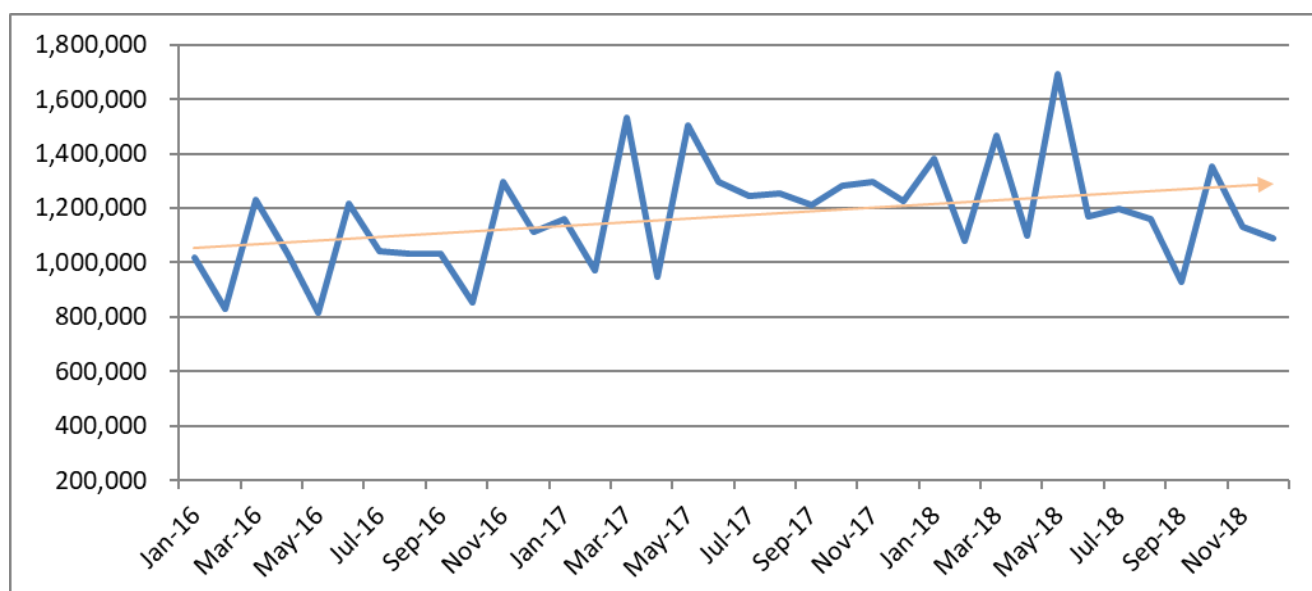


Figure 13 – Ireland order volume evolution 2016 - 2018

C.2. Ireland automation and standardisation rates

Ireland automation rate

The total automation rate reached 92.8% in Q4 2018, compared to 92.1% in Q4 2017.

Total automation rate	Q1	Q2	Q3	Q4
2016	89.0%	89.1%	89.9%	90.6%
2017	90.4%	90.6%	92.0%	92.1%
2018	92.0%	93.0%	92.0%	92.8%

Table 12 - Ireland automation rate evolution 2016 - 2018 (by quarter)

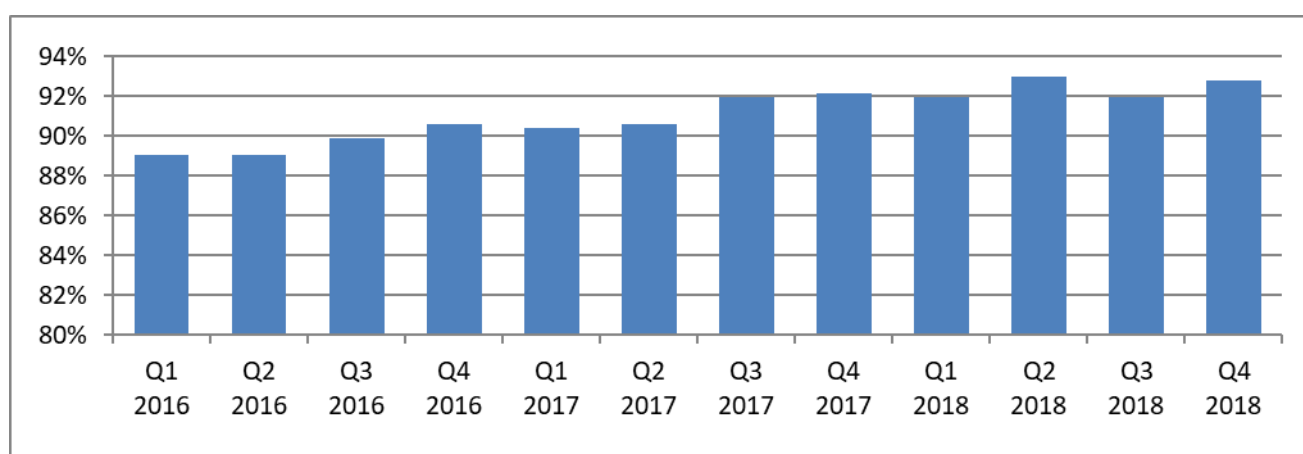


Figure 14 – Ireland automation rate evolution 2016 – 2018 (by quarter)

Ireland standardisation rate

The ISO adoption rate reached 34.7% in Q4 2018, compared to 32.5% in Q4 2017, whereas the adoption of proprietary formats decreased to 58.1% in Q4 2018 (against 59.6% in Q4 2017). The share of manual orders decreased from 7.9% in Q4 2017 to 7.2% in Q4 2018.

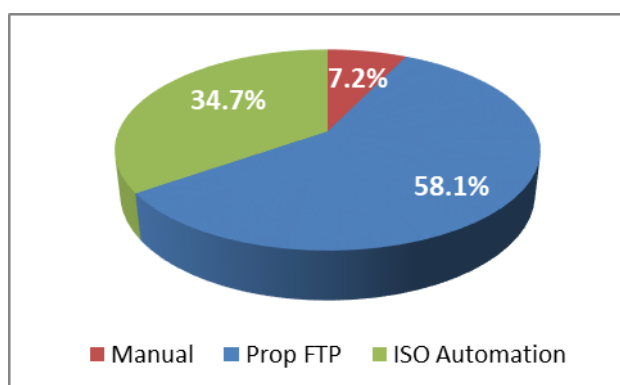


Figure 15 – Ireland fund order processing rates 2018 (Q4 2018)

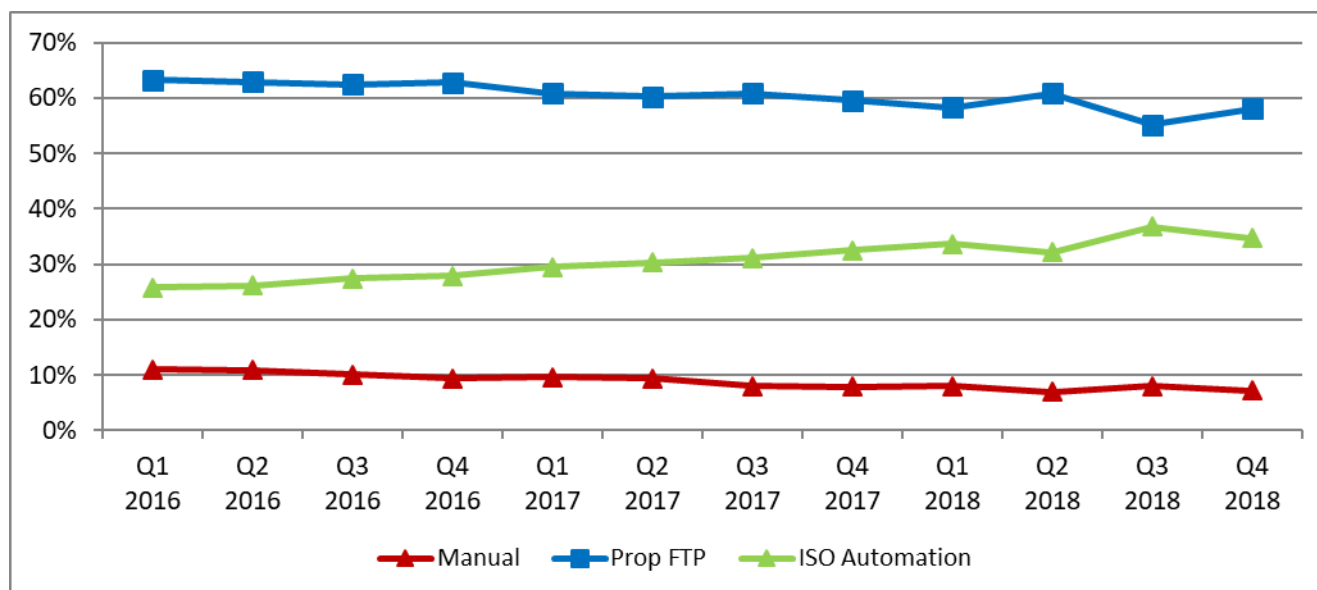


Figure 16 – Ireland standardisation rate 2016 – 2018 (by quarter)

The table below provides detailed rates per quarter.

ISO automation rate	Q1	Q2	Q3	Q4
2016	25.8%	26.1%	27.5%	27.8%
2017	29.5%	30.3%	31.1%	32.5%
2018	33.6%	32.1%	36.8%	34.7%
Proprietary FTP rate	Q1	Q2	Q3	Q4
2016	63.3%	62.9%	62.5%	62.8%
2017	60.9%	60.3%	60.9%	59.6%
2018	58.3%	60.9%	55.2%	58.1%
Manual rate	Q1	Q2	Q3	Q4
2016	11.0%	10.9%	10.1%	9.4%
2017	9.6%	9.4%	8.0%	7.9%
2018	8.0%	7.0%	8.0%	7.2%

Table 13 – Ireland fund order processing rates evolution 2016 - 2018 (by quarter)⁶

⁶ The median for Ireland total automation rate and the ISO automation rate evolved to 85% and 70% this year compared to 83% and 66% in 2017. The manual rate median decreased to 15% compared to last year (17%).

C.3. Ireland regional overview

Regional breakdown information is available from a subset of Ireland survey contributors (5 out of 9) mostly active in the EMEA region, who processed 9.1 million orders in 2018 or 62% of the volumes. The regional percentages are calculated on this subset.

Ireland regional split of volumes by order giver location

APAC-based order givers generated 2% of incoming order volumes in Ireland during Q4 2018. The percentage of orders from order givers in EMEA was 95% against 3% from Americas-based order senders.

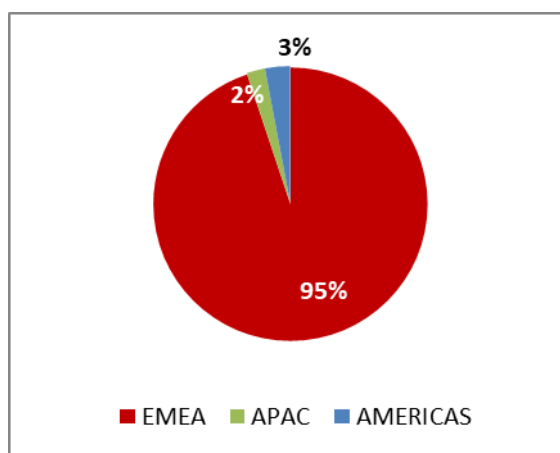


Figure 10 - Ireland order volumes per region (by order giver location - Q4 2018)

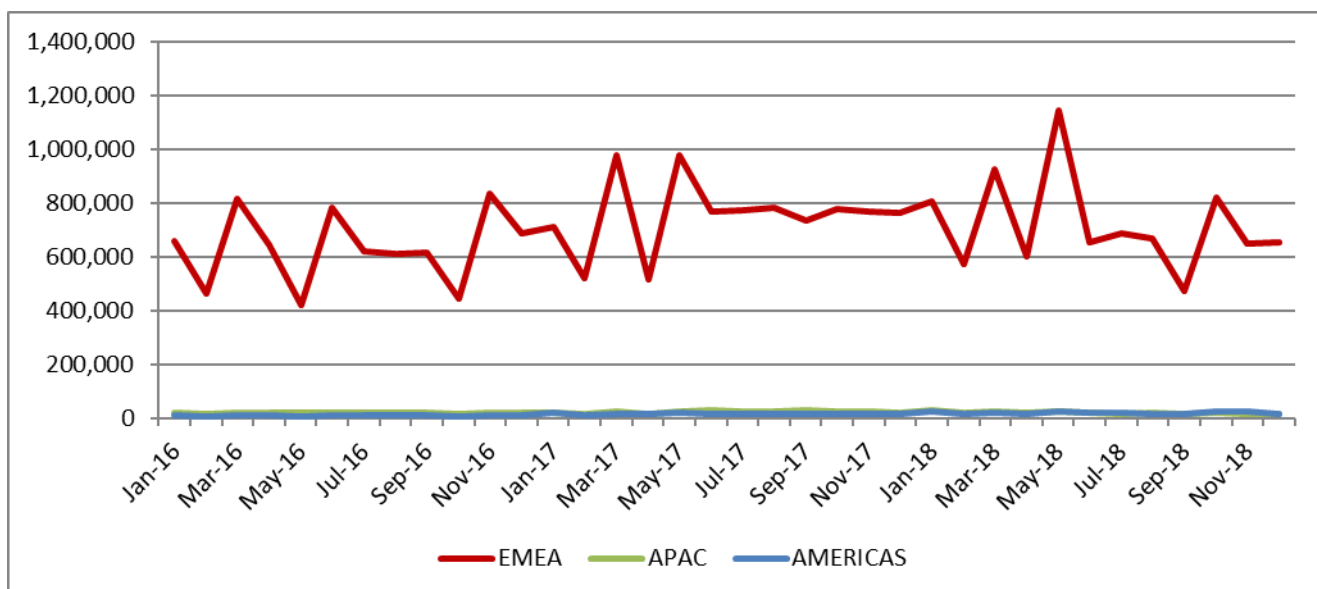


Figure 11 - Ireland order volumes evolution per region

Ireland regional split of automation and standardisation rates

In the EMEA region, the ISO automation rates increased from 12.4% in Q4 2017 to 14.9% in Q4 2018. In APAC⁷ and Americas, the rate decreased to respectively 4.7% and 14% in Q4 2018, compared to 26.6% and 18.2% in Q4 2017.

The total automation (ISO + proprietary) rate decreased in APAC and Americas in Q4 2018 to 76.2% and 52.2%, respectively, compared to 80.6% and 72.1% in Q4 2017.

	ISO automation			Total automation (ISO + proprietary formats)		
	EMEA	APAC	Americas	EMEA	APAC	Americas
Q4 2016	9.5%	18.1%	9.6%	97.7%	79.3%	85.8%
Q4 2017	12.4%	26.6%	18.2%	97.4%	80.6%	72.1%
Q4 2018	14.9%	4.7%	14.0%	97.8%	76.2%	52.2%

Table 10 – Ireland fund order automation rates evolution by region

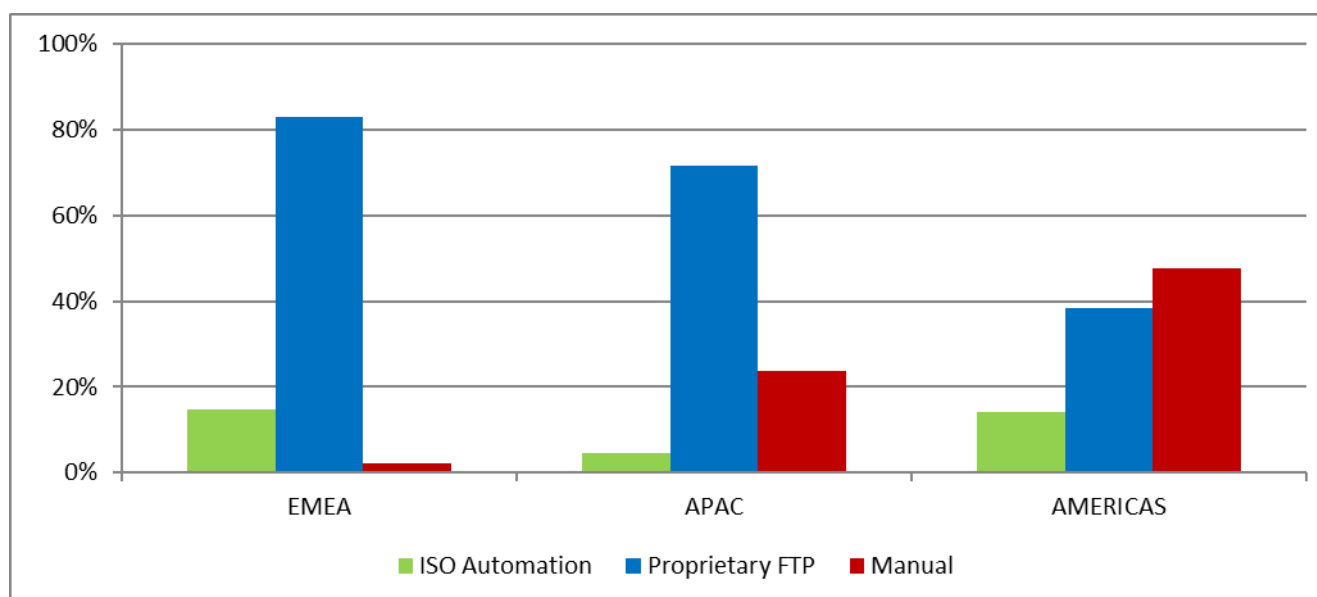


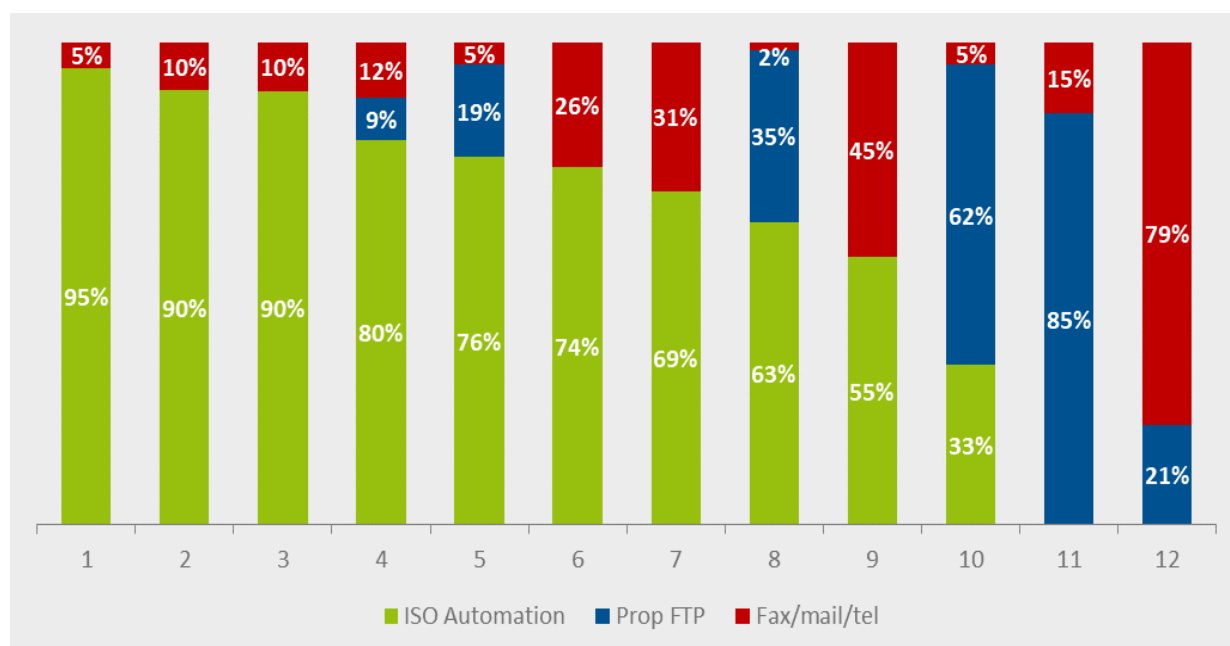
Figure 12 – Ireland fund order processing rates per region (Q4 2018)

⁷ The ISO rate decrease in APAC can be explained by one of the TA for which they received no ISO orders during the second part of the year.

D. Standardisation of fund processing in Germany in 2018

Germany is the largest fund distribution market in the EU with well over 80 million population. Fund investment penetration is still low as only 20+ million inhabitants are estimated to hold fund units and shares. The Praxisforum Depotbanken (PFD) and BVI, the German Funds Association, agreed three years ago to cooperate on a survey of processing standardisation levels in the German fund market. This case study presents the fund processing transactions which took place in 2018 between distributors or platforms – often banks – and currently 12 depository banks (“Verwahrstellen”) of different size acting as transfer agents (TA) of German domiciled funds (DE ISINs). This is not the full picture as transactions within the distribution chain before reaching the TA may also use other means of communication. For instance, it is possible that financial advisors communicate with their platforms on the basis of fax or email. It should also be remembered that German funds are settling in the local CSD and not with a TA.

- **Survey coverage: 12 Verwahrstellen (referred to as TAs)** contributed to the survey (compared to 13 TAs in 2017); they cover about 88% of the German market. The order volumes processed by the 12 survey contributors reached 0.76 million orders in 2018.

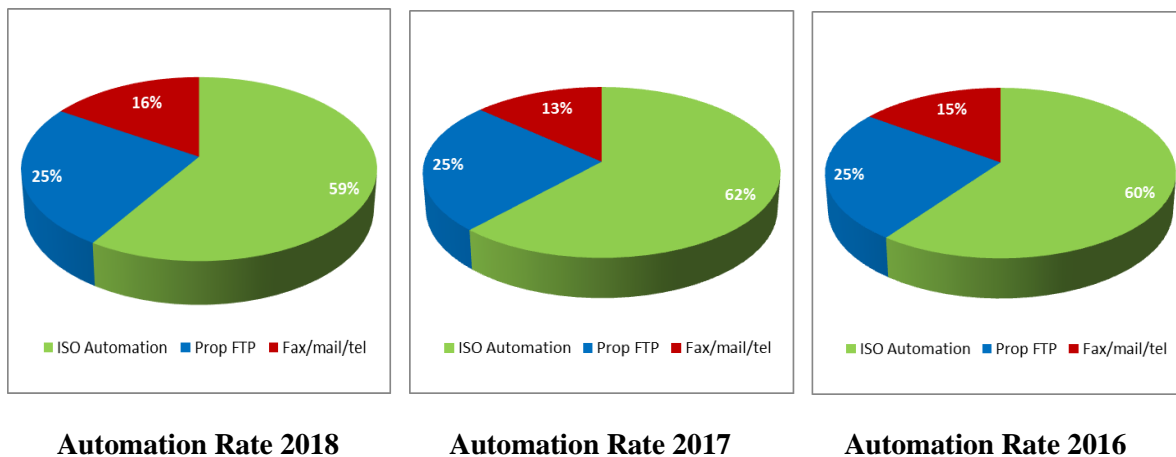


Germany fund order processing rates 2018

- **Total automation rate⁸** of orders in 2018 is **84% as compared to 87% in 2017**. However, the above graph also shows a great dispersion of automation levels sometimes with considerable levels of non-ISO format solutions and still considerable amounts of manual processing.

⁸ The ‘total automation rate’ is the sum of the ‘ISO Automation’, and the ‘Prop FTP’ rate.

- **ISO automation rate⁹** reached **59%** in 2018 compared to **62%** in 2017. Several banks had to increase for technical reasons the number of manually processed orders, but the situation is considered temporary and automation rates will improve in the future.
- **25%** of the orders were processed using non-ISO solutions in 2018.



BVI and the Praxisforum Depotbanken expect further improvement of automation rates in fund processing in Germany against the background of ISO 20022 settlements in T2S as well as general pressure on costs of funds.

⁹ The ‘ISO automation rate’ corresponds to the standardisation rate, i.e. the rate of automated orders using an SWIFT network or ISO 20022.

E. Next report

The next joint EFAMA-SWIFT Fund Processing Standardisation report is planned for publication in Q4 2019 and will cover the development during the first half of 2019.
