4CB T2S Operational Management
ECB T2S Coordination

T2S Operations Report
January 2017

1. Introduction

This report is prepared in collaboration between 4CB T2S Operational Management and ECB T2S Coordination. The aim is to provide information on operational and coordination activities, settlement statistics and follow up of SLA monitoring.

2. Executive summary

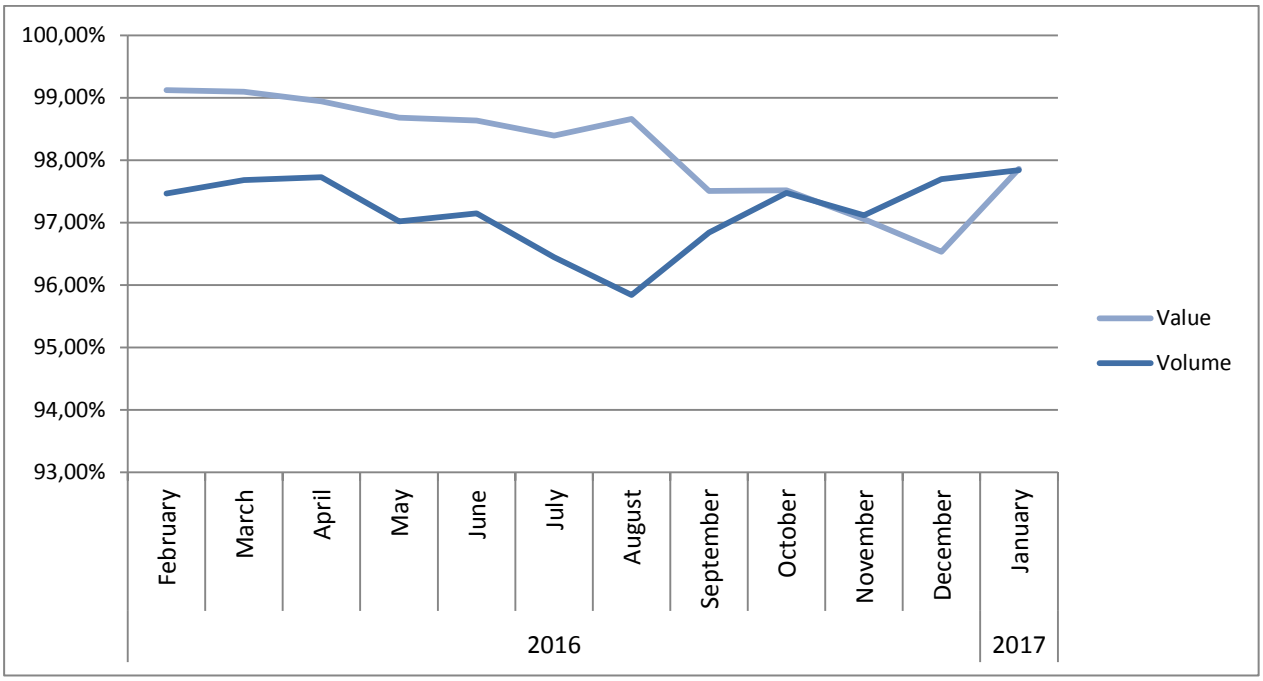
During the month of January, T2S didn't experienced major incidents requiring the involvement of the Crisis Managers. The availability during the period was 99,90 percent for the information, the static data services and the settlement liquidity management.

In January T2S processed 5.154.517 transactions[1] with an equivalent value of € 13.380,86 billion on 19.584 active T2S Securities Accounts and 573 active Dedicated Cash Accounts. On average, T2S processed 234.296,23 transactions per day with an average value of € 608,22 billion. On average, 58,80 per cent of volume and 29,26 per cent of value was settled during NTS. In January, the settlement efficiency was 97,84 per cent for volume and 97,86 per cent for value. On average, € 57,76 billion per day of intraday credit through auto-collateralization has been provided (€ 10,72 billion on flow and € 47,04 billion on stock).

[1] The figures include all the internal generated instructions as well as the liquidity transfer to/from T2

3. Settlement data

Chart 1: *Settlement Efficiency*



Settlement efficiency January (Value)	Percent	Date
Maximum	98,43 %	25/01/2017
Minimum	97,24 %	06/01/2017

Settlement efficiency January (Volume)	Percent	Date
Maximum	98,17 %	27/01/2017
Minimum	97,31 %	03/01/2017

The settlement efficiency average is the arithmetic average of the daily settlement efficiency percentages. According to the T2S Framework Agreement (Sch. 6 -7.2.2) the settlement efficiency is computed as the number of settled transactions intended for settlement on that Settlement Day divided by the total number of transactions intended for settlement on that Settlement Day.

Chart 2: *Average percentage of unsettled transactions per number of recycling days (January)*

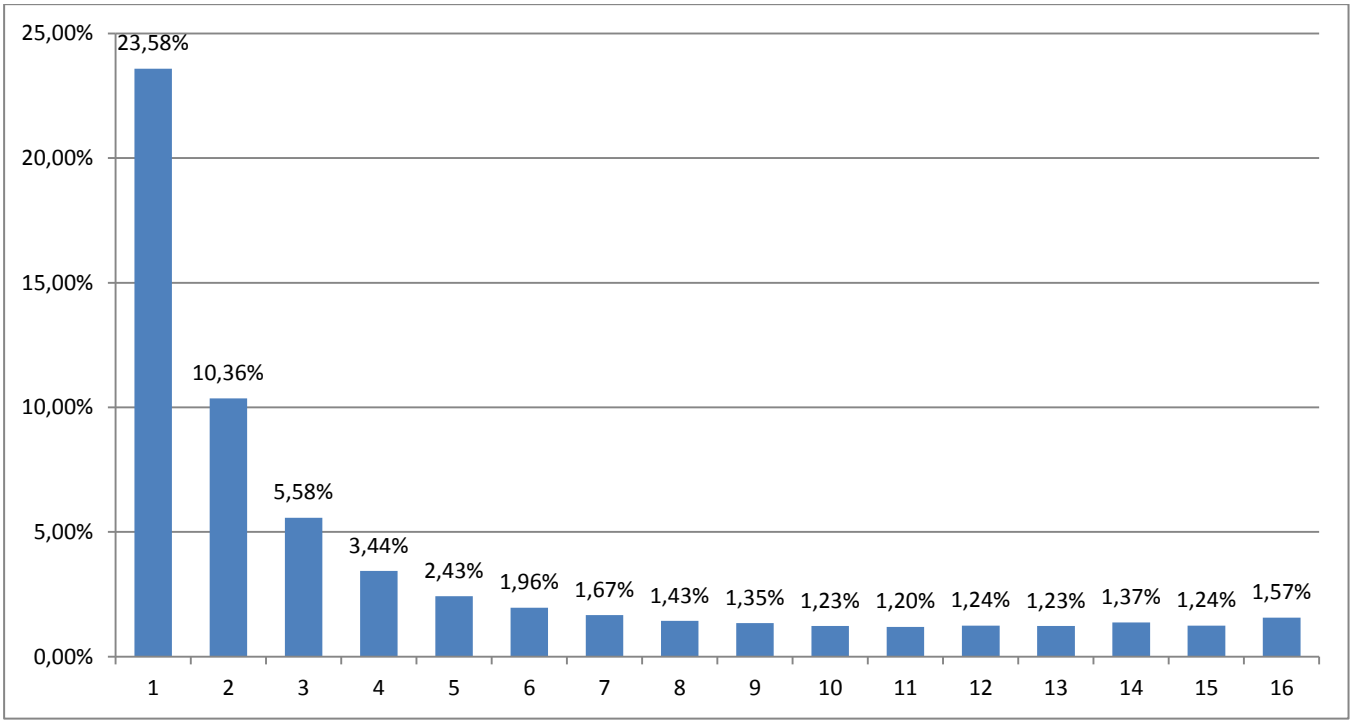
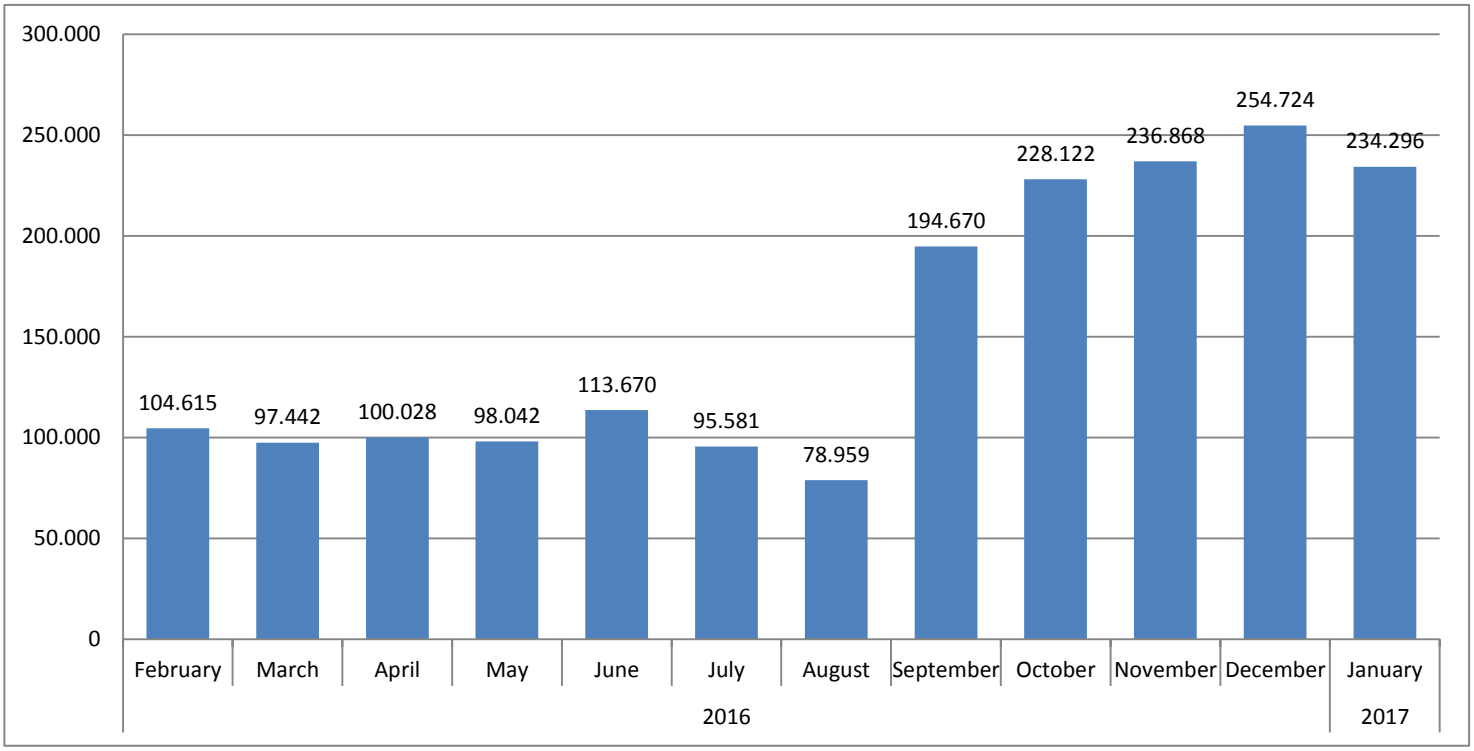
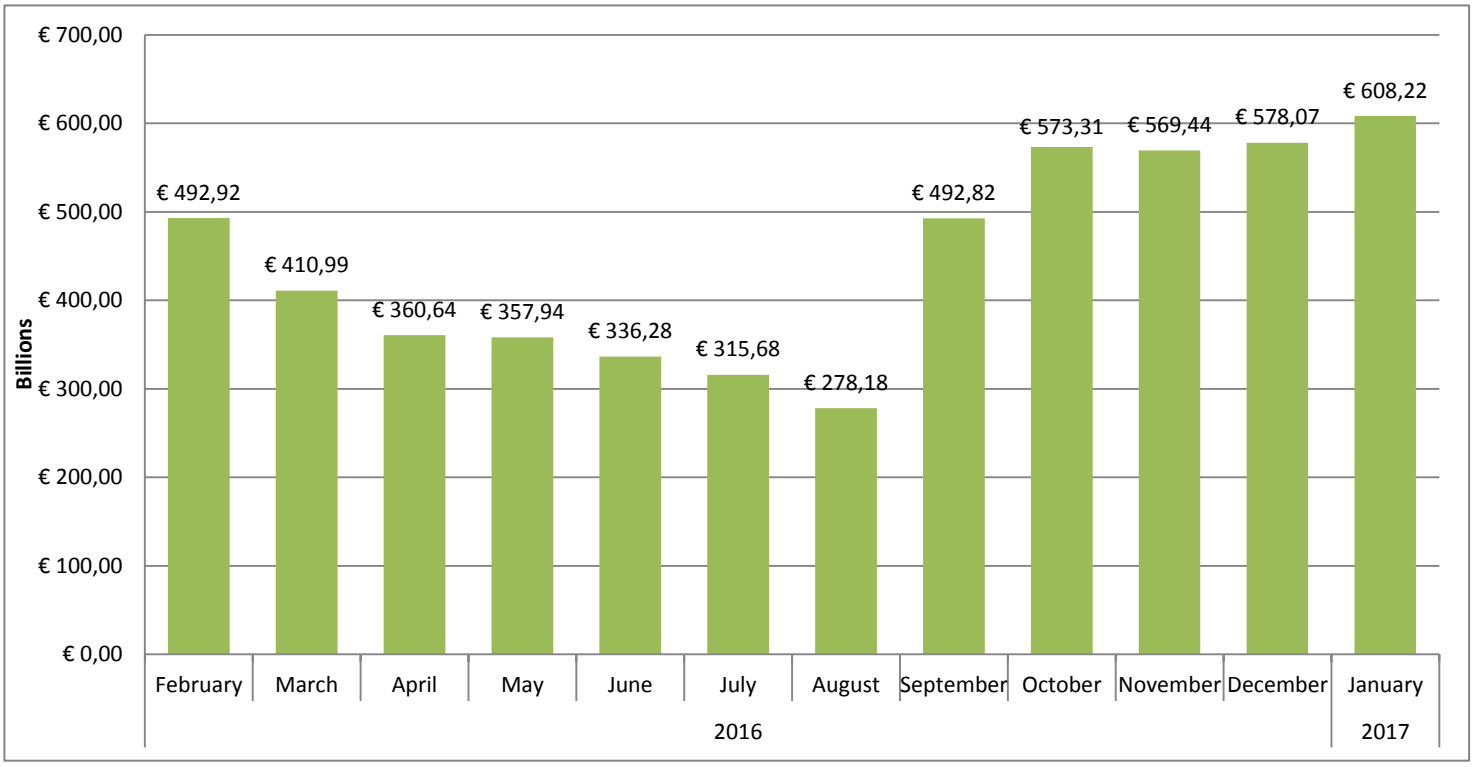


Chart 3: *Daily average volume of settled transactions*



Settled transactions January	Volume	Date
Maximum	270.306	27/01/2017
Minimum	179.186	02/01/2017

Chart 4: *Daily average value of settled transactions (€ billions, including also technical operations carried out by the NCBs that were used until 11 March 2016)*[2]



Settled transactions January	Value (€)	Date
Maximum	808.676.128.634,17	31/01/2017
Minimum	502.979.829.491,81	19/01/2017

[2] The value of settled transactions includes also the liquidity transfer to/from TARGET2.

Chart 5: *Comparison of real-time and night-time settlement volume*

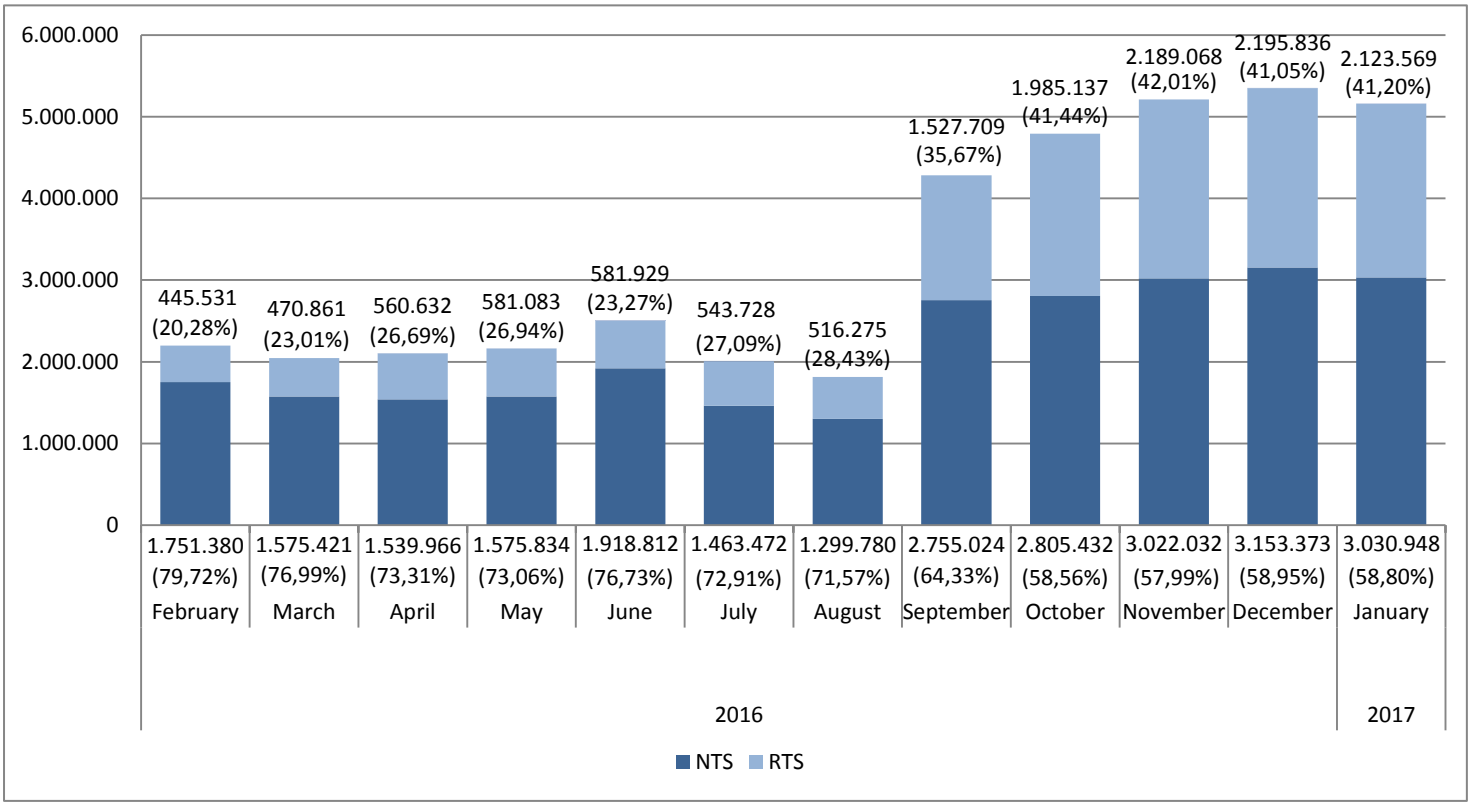


Chart 6: *Comparison of real-time and night-time settlement value (€ billions)*

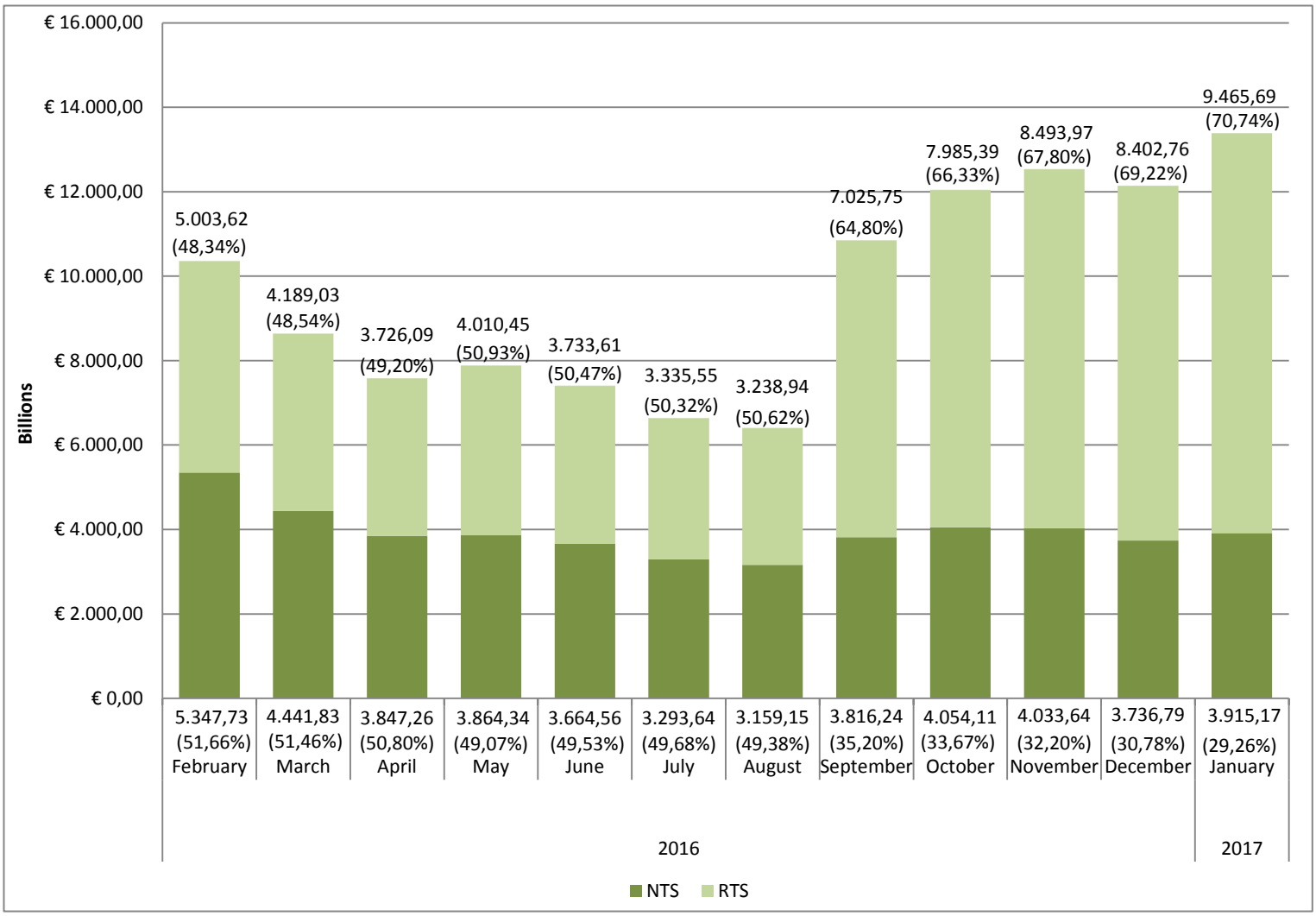


Chart 7: *Number of Inbound/Outbound liquidity transfers (daily average, including also technical operations carried out by the NCBs that were used until 11 March 2016)*

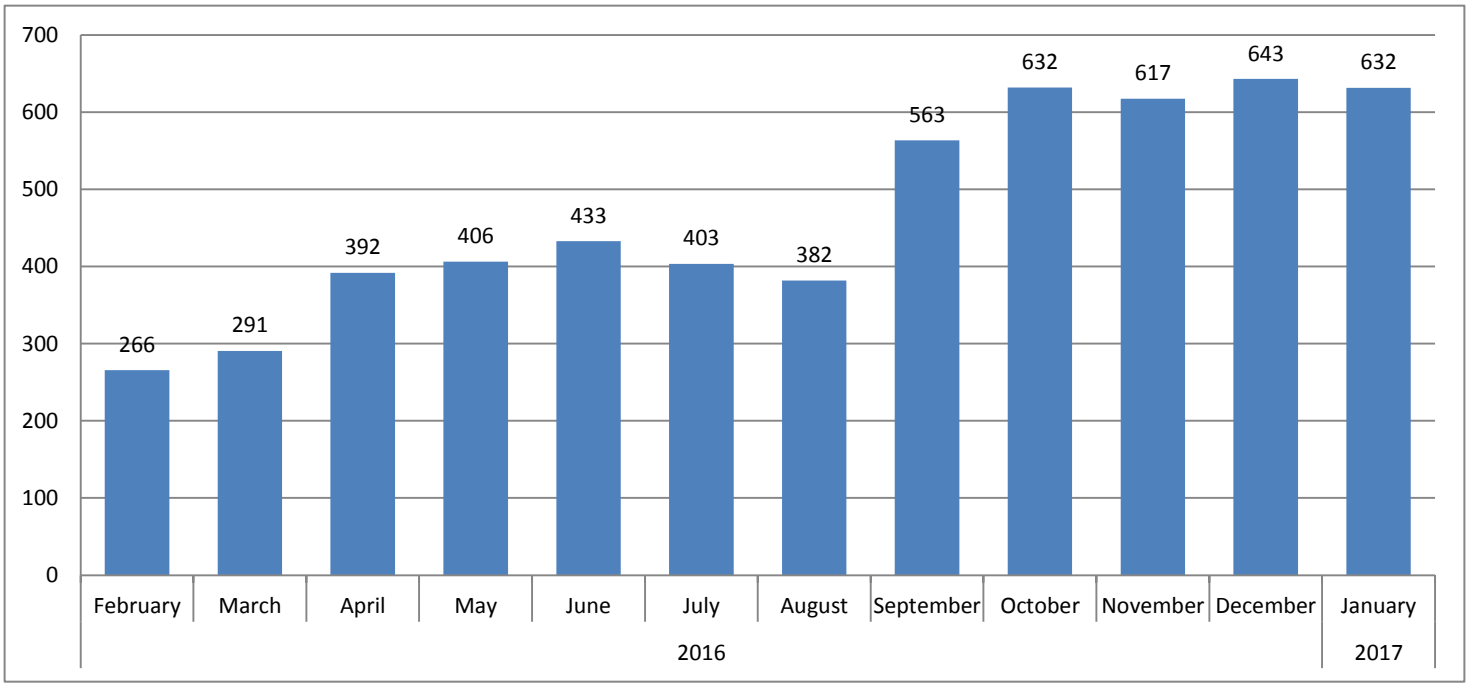


Chart 8: *Value of Inbound/Outbound liquidity transfers (daily average, € billion, including also technical operations carried out by the NCBs that were used until 11 March 2016)*

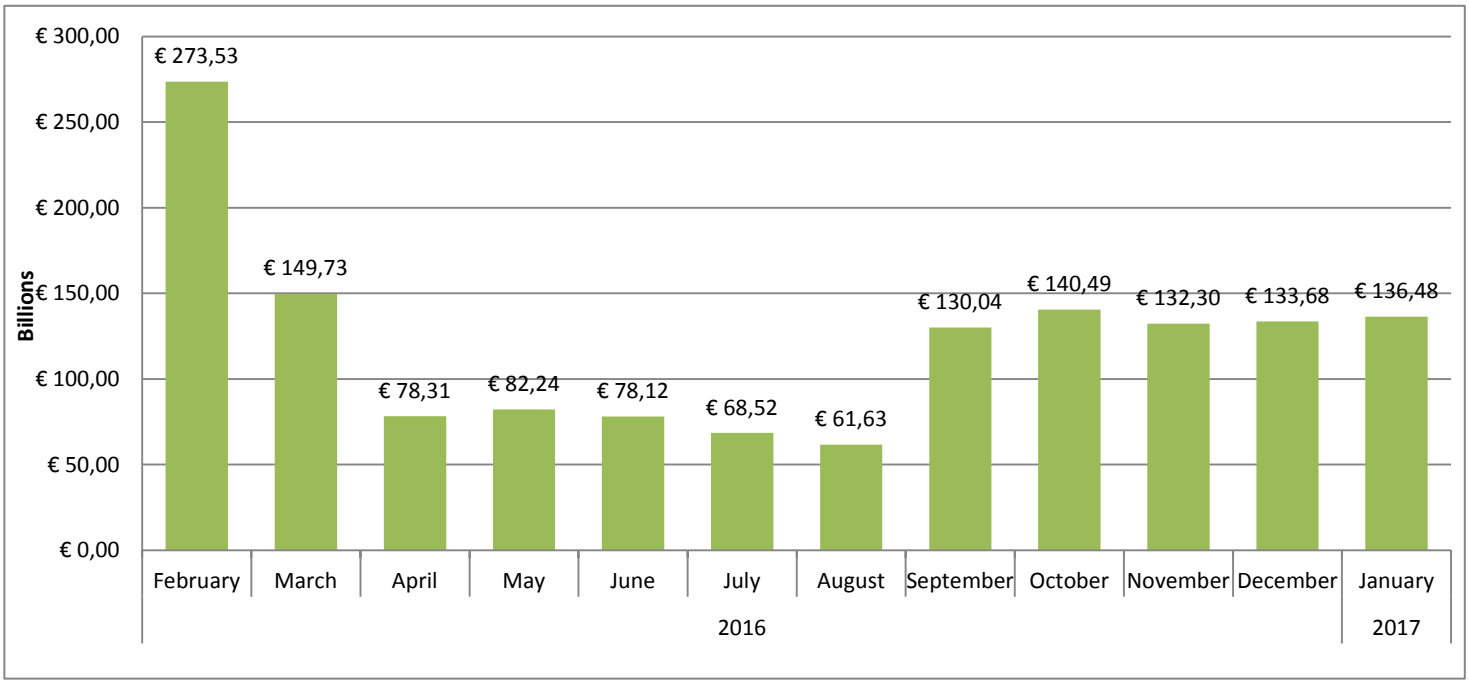
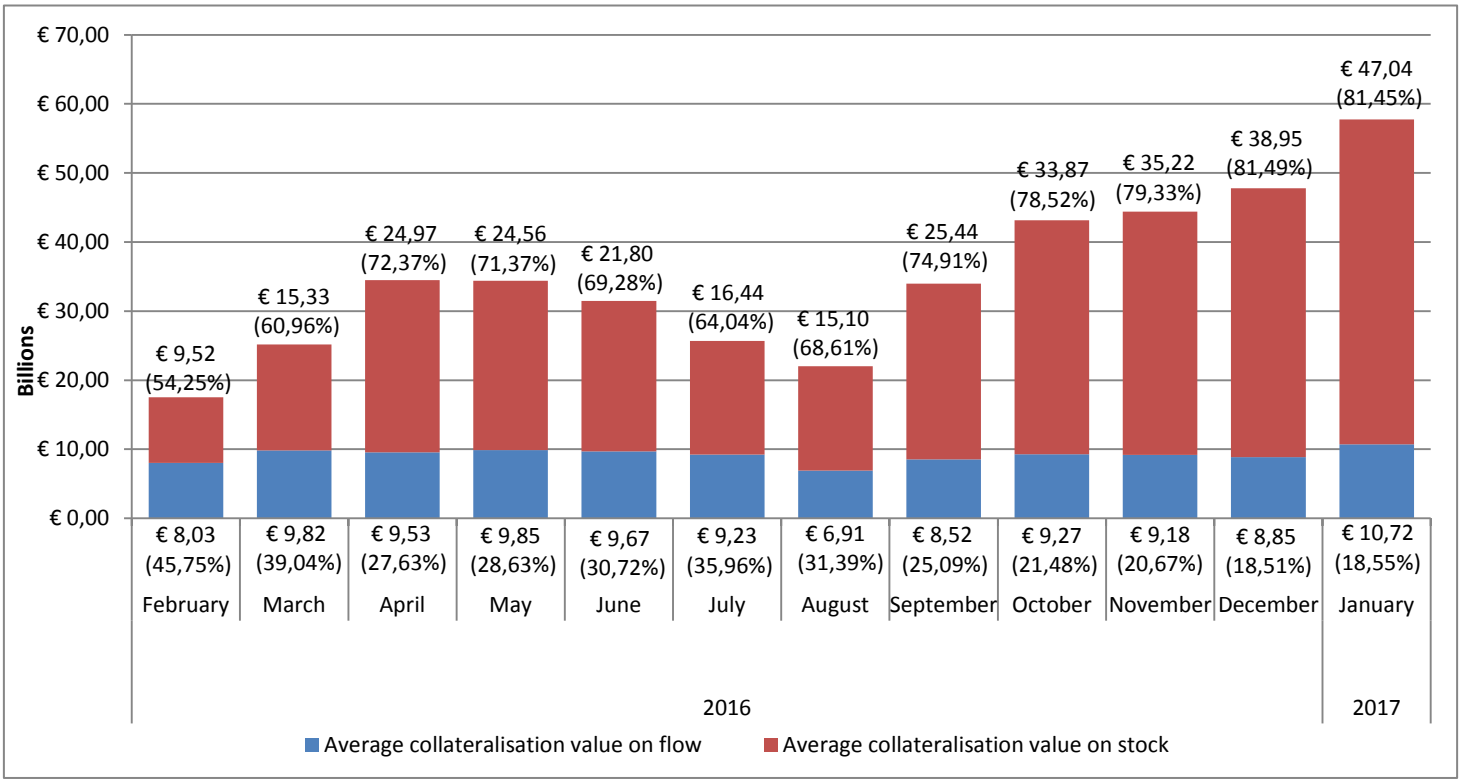


Chart 9: *Daily average value collateralisation transactions (€ billions)*



Collateralisation transactions January	Value (€)	Date
Maximum	99.976.356.705,34	25/01/2017
Minimum	32.689.527.934,22	30/01/2017

Chart 10: *Comparison of real-time and night-time usage of auto-collateralisation (€ billions)*

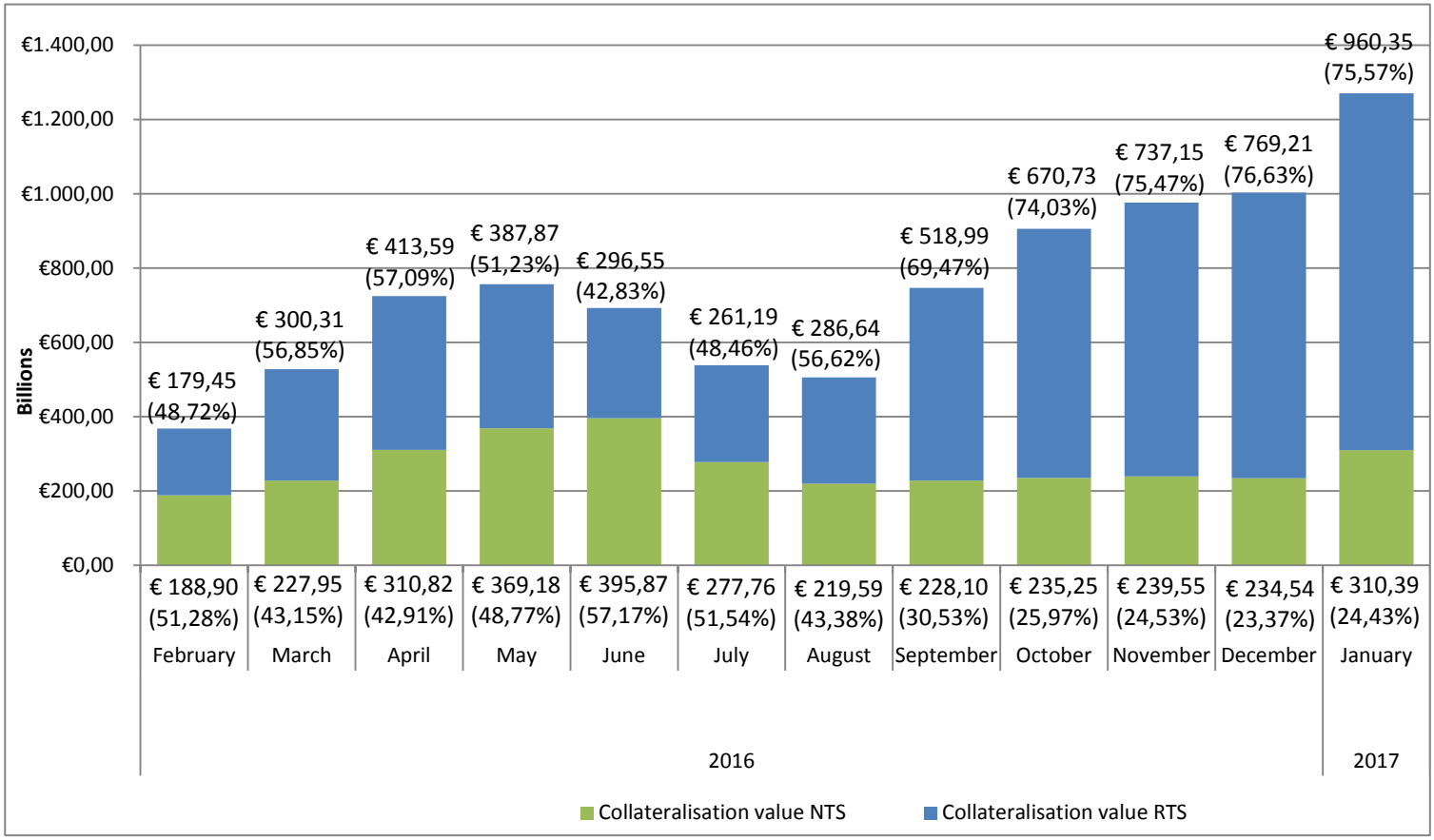


Chart 11: *Daily average volume per securities category*

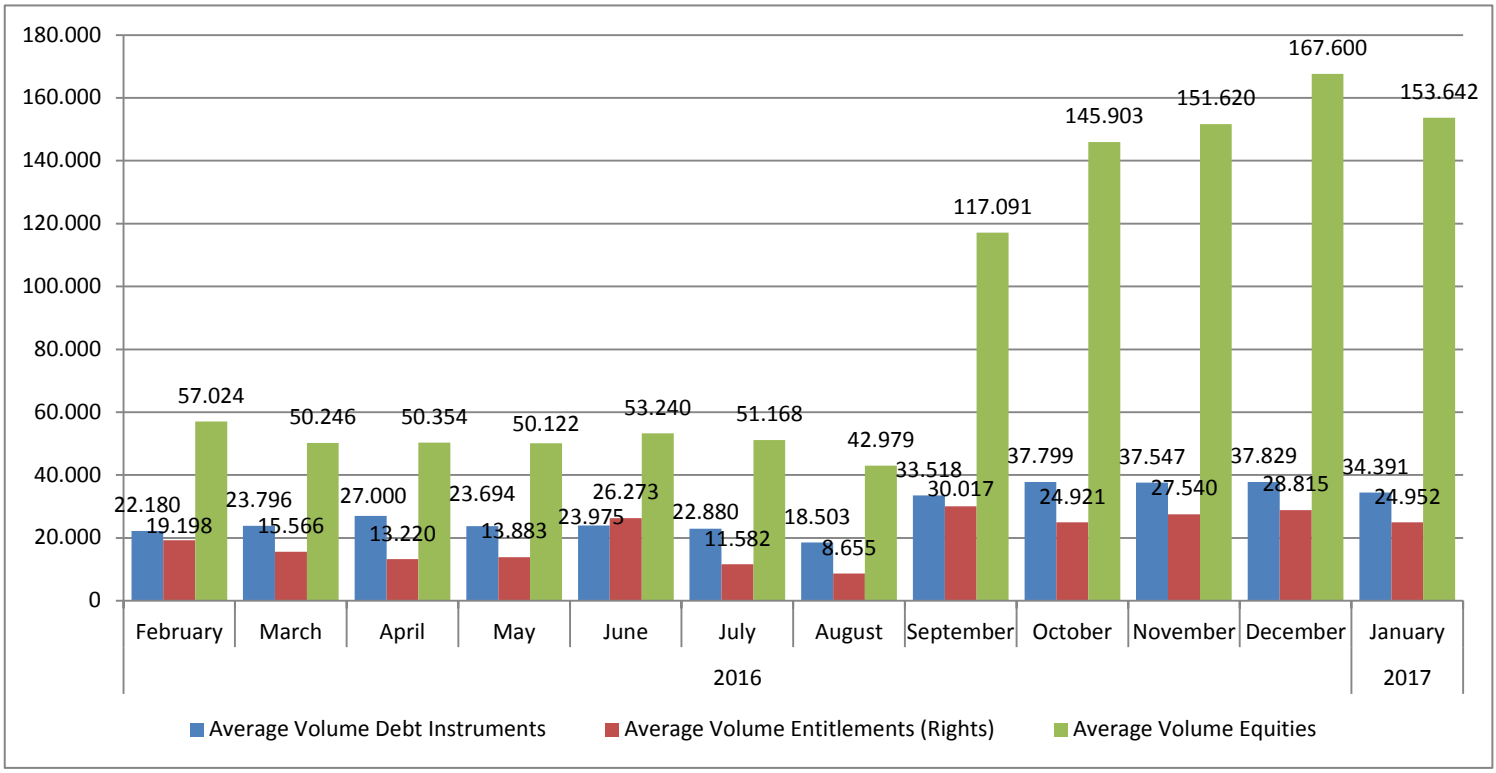


Chart 12: Daily average value per securities category (€ billions)

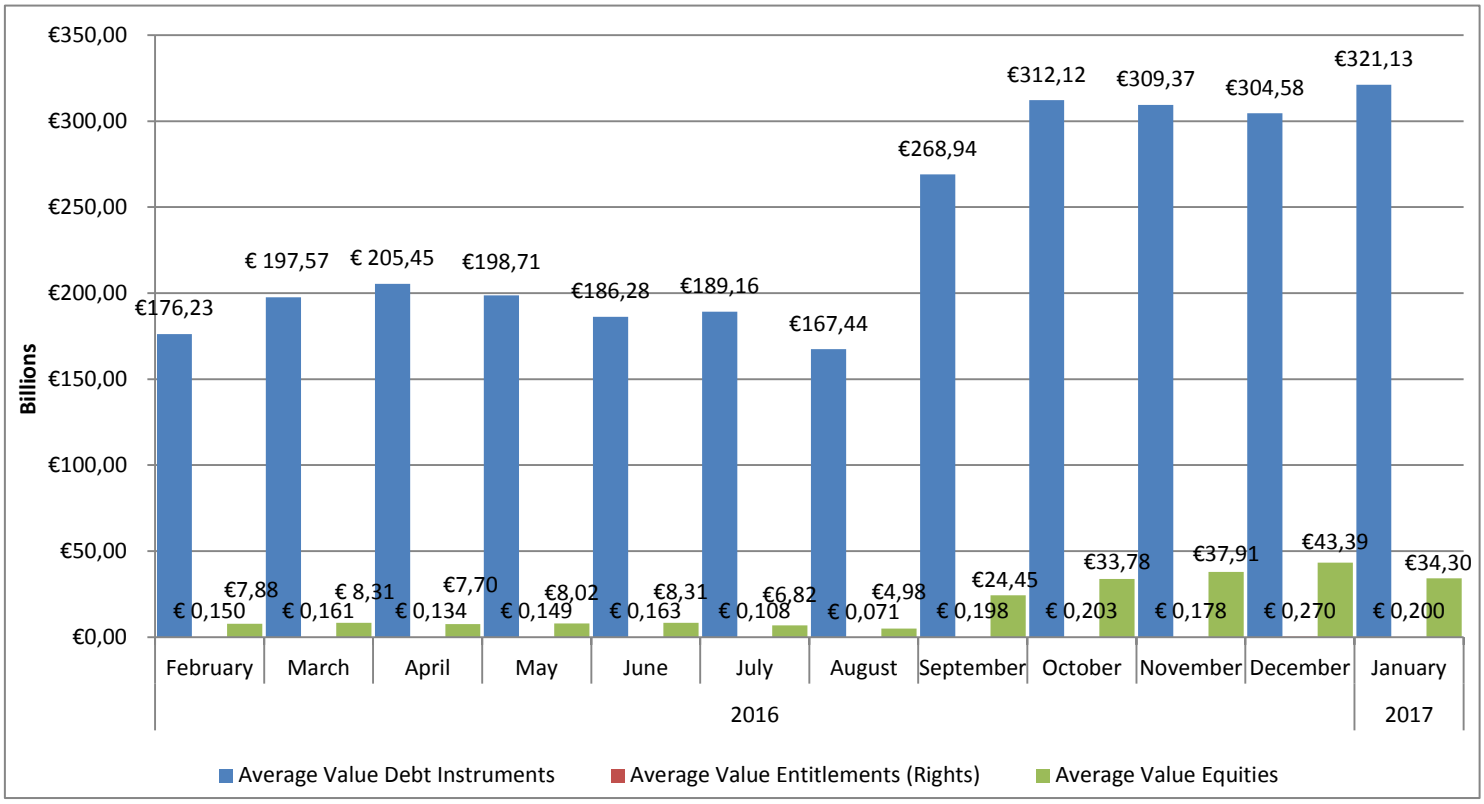
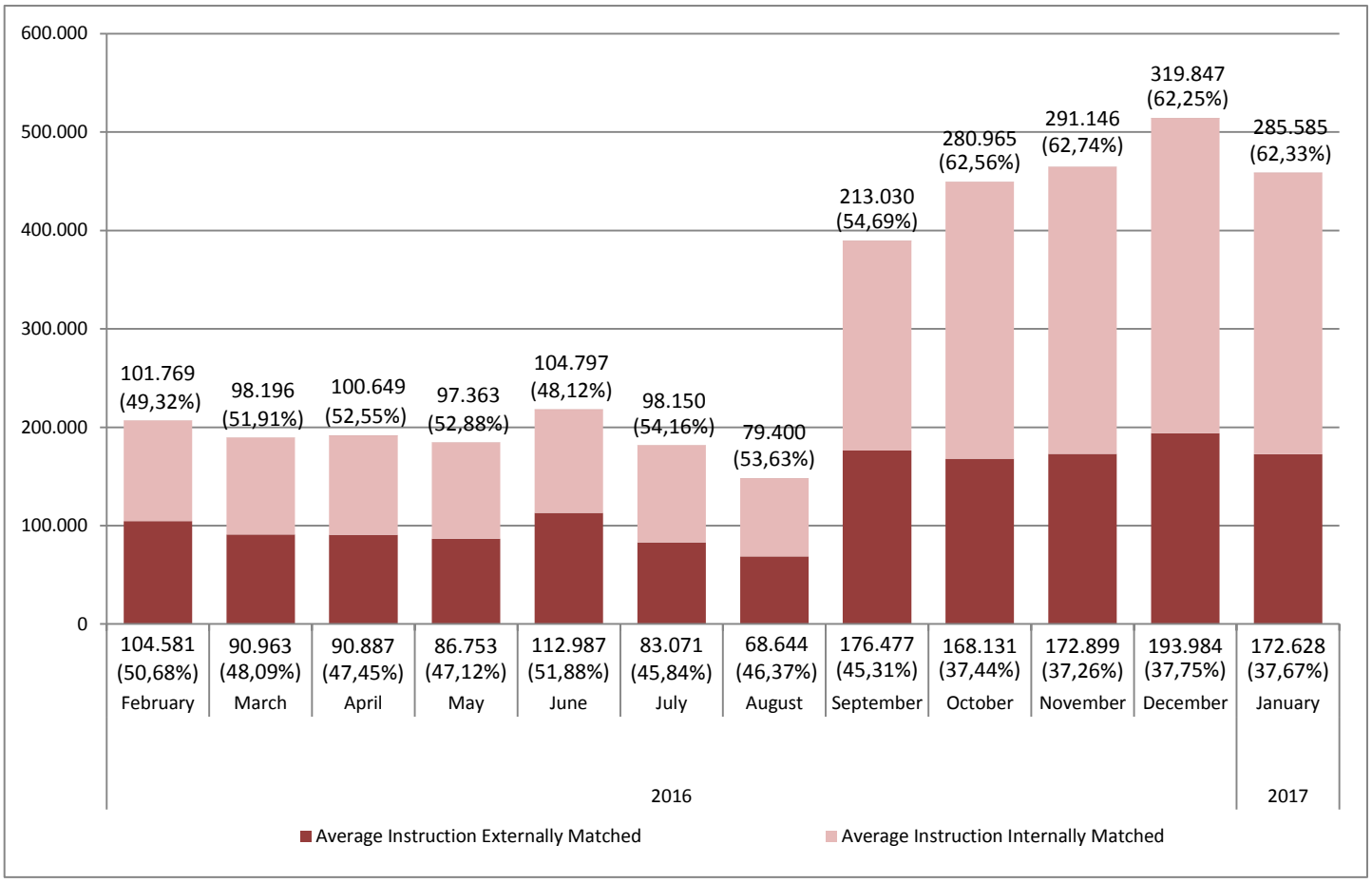


Chart 13: *Comparison of settlement Instructions internally/externally matched (per cent, daily average)*



All the instructions sent during the period under analysis are considered, disregarding positive or negative matching and settlement and disregarding ISD

Chart 14: *Comparison of intra-CSD and cross-CSD settlement by volume (percent, daily average)*

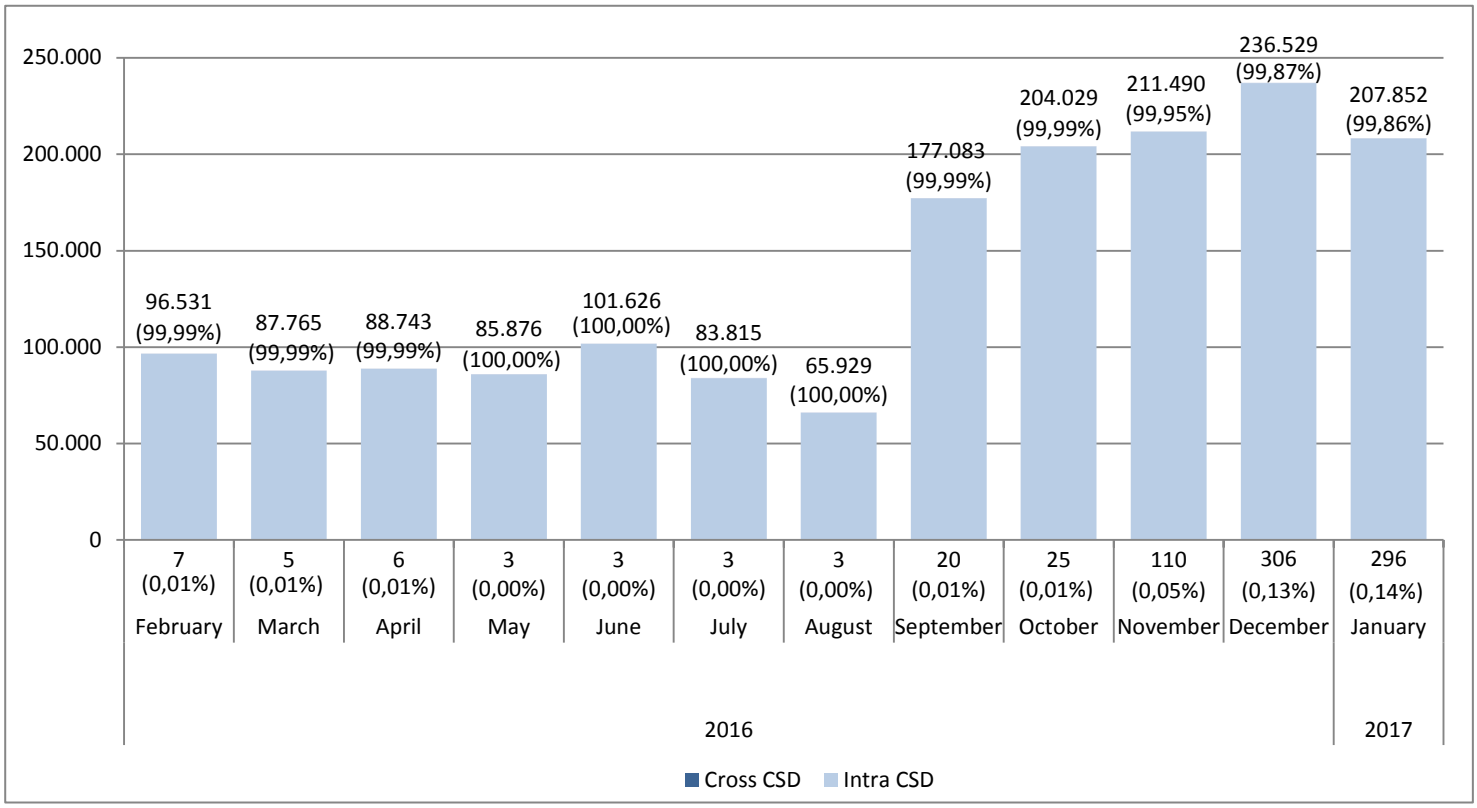


Chart 15: *Comparison of intra-CSD and cross-CSD settlement by value (percent, daily average)*

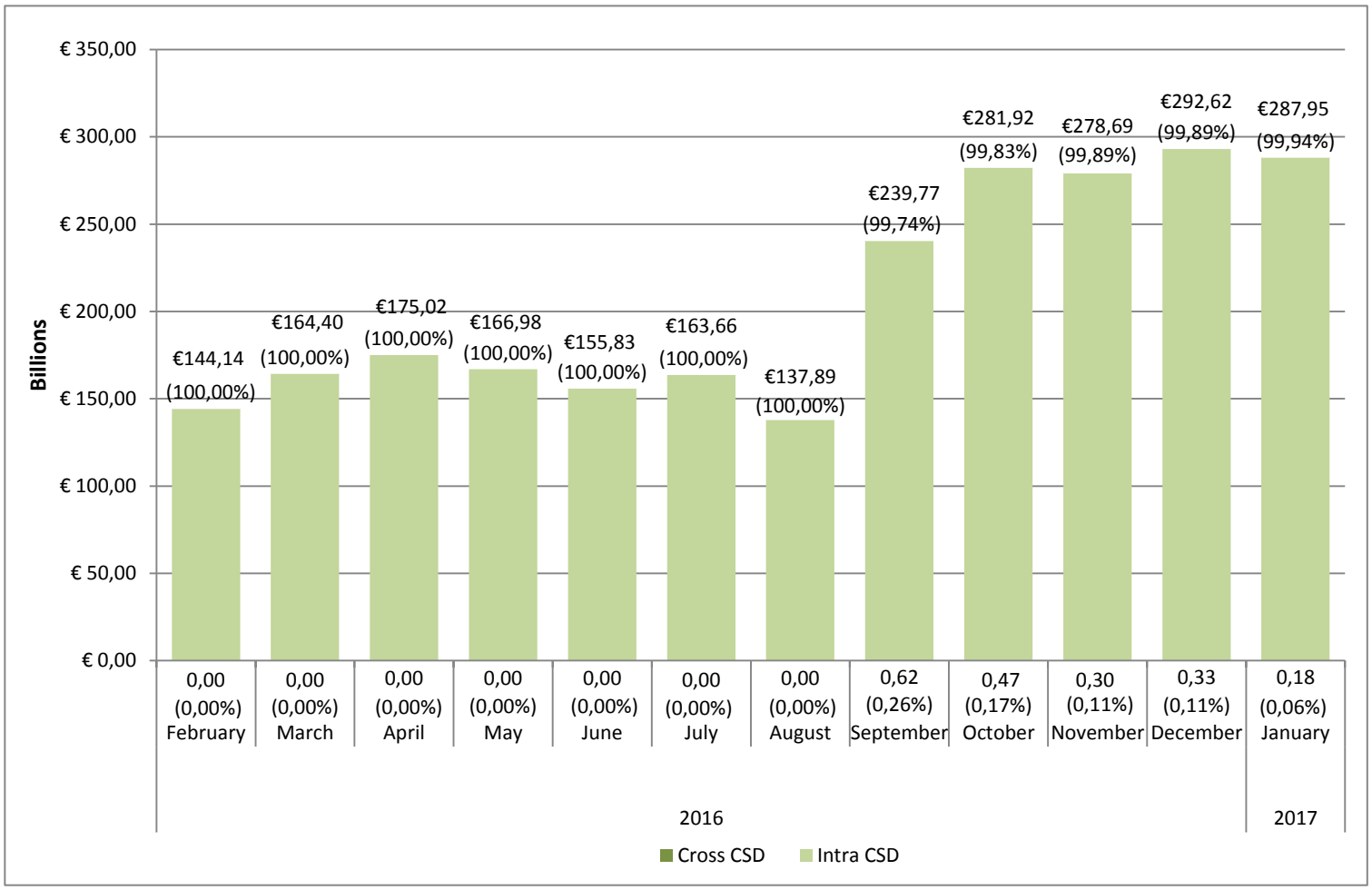


Chart 16: *Payments processed on Dedicated Cash Accounts (DCA) sent per country participating in or connected to TARGET: Volume of transactions (number of payments)*

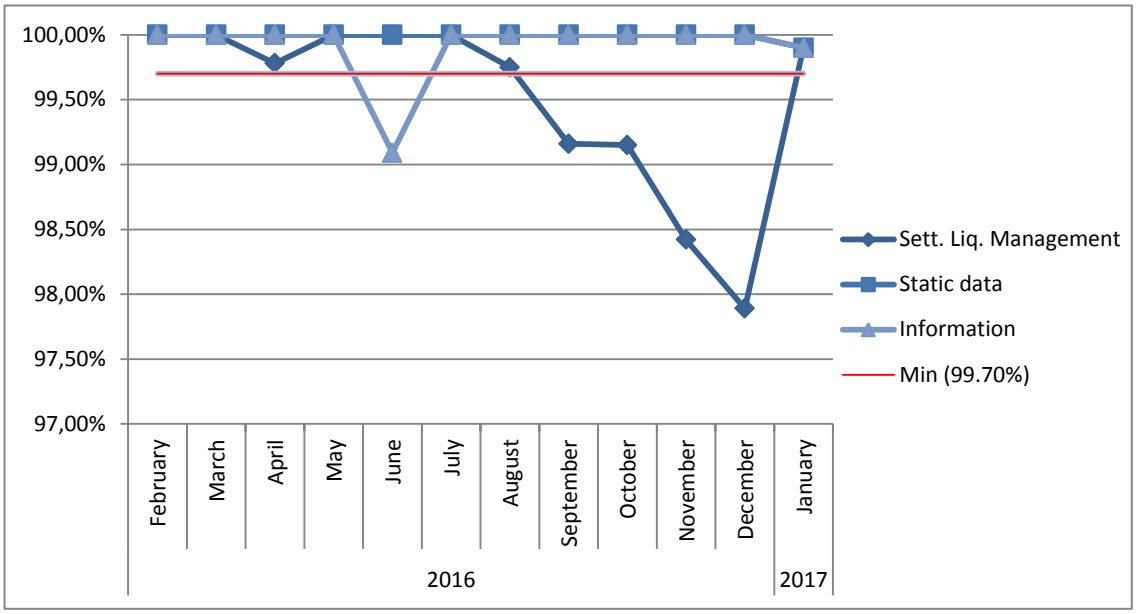
		2016												2017
		January	February	March	April	May	June	July	August	September	October	November	December	January
		Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume
AT	Total									6		2		
	Average									0,27		0,09		
BE	Total			4.174	19.892	19.589	20.588	17.770	17.394	33.008	39.213	41.532	44.000	42.827
	Average			198,76	947,24	890,41	935,82	846,19	756,26	1.500,36	1.867,29	1.887,82	2.095,24	1.946,68
BG	Total													
	Average													
CY	Total													
	Average													
DE	Total	61.339	69.921	66.330	68.830	69.815	75.614	70.707	61.833	162.655	204.566	223.884	236.431	206.735
	Average	3.066,95	3.329,57	3.277,62	3.275,43	3.173,41	3.437,00	3.367,00	2.688,39	7.393,41	9.741,24	10.176,55	11.258,62	9.397,05
DK	Total									54	111	67	123	231
	Average									2,45	5,29	3,05	5,86	10,50
EE	Total													
	Average													
ES	Total	29	12	57	238	113	141	138	128	120	204	175	113	282
	Average	1,45	0,57	2,71	11,33	5,14	6,41	6,57	5,57	5,45	9,71	7,95	5,38	12,82
EU	Total	3	10	4	19	10	8	18	6	3	13	34	3	1
	Average	0,15	0,48	0,19	0,90	0,45	0,36	0,86	0,26	0,14	0,62	1,55	0,14	0,05
FI	Total									295	410	362	361	366
	Average									13,41	19,52	16,45	17,19	16,64
FR	Total	427.827	513.544	485.159	514.021	524.803	590.118	485.203	440.012	1.666.717	2.183.814	2.352.430	2.429.948	2.360.196
	Average	21.391,35	24.454,48	23.102,81	24.477,19	23.854,68	26.823,55	23.104,90	19.130,96	75.759,86	103.991,14	106.928,64	115.711,81	107.281,64
GR	Total	755	3.112	1.422	1.842	2.235	1786	1.378	1.080	1560	1.432	2.879	1.894	1.619
	Average	37,75	148,19	67,71	87,71	101,59	81,18	65,62	46,96	70,91	68,19	130,86	90,19	73,59
HR	Total													
	Average													
IE	Total													
	Average													
IT	Total	1.046.631	1.261.476	1.101.635	1.092.829	1.112.847	1.386.517	1.023.488	912.202	1.188.074	1.333.867	1.451.032	1.451.752	1.438.254
	Average	52.331,55	60.070,29	52.458,81	52.039,48	50.583,95	63.023,50	48.737,52	39.660,96	54.003,36	63.517,48	65.956,00	69.131,05	65.375,18
LT	Total													
	Average													
LU	Total	10	6	95	397	452	548	341	273	340	401	584	1.024	664
	Average	0,50	0,29	4,52	18,90	20,55	24,91	16,24	11,87	15,45	19,10	26,55	48,76	30,18
LV	Total													
	Average													
MT	Total	1.817	2.656	2.578	2.505	2.670	2.030	2.484	2.536	2.405	3.137	3.782	2.803	2.740
	Average	90,85	126,48	122,76	119,29	121,36	92,27	118,29	110,26	109,32	149,38	171,91	133,48	124,55
NL	Total	21.485	23.460	23.025	21.794	22.756	23.980	22.236	21.174	122.850	166.301	172.938	159.907	165.165
	Average	1.074,25	1.117,14	1.096,43	1.037,81	1.034,36	1.090,00	1.058,86	920,61	5.584,09	7.919,10	7.860,82	7.614,62	7.507,50
PL	Total													
	Average													
PT	Total			1.878	13.337	14.482	13.969	11.388	11.046	12.881	11.427	12.536	11.473	12.301
	Average			89,43	635,10	658,27	634,95	542,29	480,26	585,50	544,14	569,82	546,33	559,14
RO	Total													
	Average													
SI	Total													
	Average													
SK	Total													
	Average													

Chart 17: *Payments processed on Dedicated Cash Accounts (DCA) sent per country participating in or connected to TARGET: Value of transactions (EUR billions)*

		2016												2017
		January	February	March	April	May	June	July	August	September	October	November	December	January
		Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value
AT	Total									€ 91.624,73		€ 103,75		
	Average									€ 4.164,76		€ 4,72		
BE	Total			€ 80.145.903.164,24	€ 389.646.715.104,38	€ 394.579.613.871,80	€ 360.010.710.529,07	€ 366.379.888.411,54	€ 388.961.190.876,01	€ 448.488.435.730,93	€ 428.651.733.503,68	€ 437.511.233.437,77	€ 444.695.276.097,67	€ 449.277.475.061,02
	Average			€ 3.816.471.579,25	€ 18.554.605.481,16	€ 17.935.436.994,17	€ 16.364.123.205,87	€ 17.446.661.352,93	€ 16.911.356.125,04	€ 20.385.837.987,77	€ 20.411.987.309,70	€ 19.886.874.247,17	€ 21.175.965.528,46	€ 20.421.703.411,86
BG	Total													
	Average													
CY	Total													
	Average													
DE	Total	€ 63.496.705.973,37	€ 79.393.039.295,78	€ 111.675.200.338,77	€ 100.401.884.324,50	€ 73.747.775.264,02	€ 73.746.141.938,03	€ 65.095.001.242,85	€ 55.362.657.596,02	€ 138.799.474.874,82	€ 157.557.979.773,63	€ 221.047.703.735,08	€ 240.960.401.623,21	€ 252.265.325.994,37
	Average	€ 3.174.835.298,67	€ 3.780.620.918,85	€ 5.317.866.682,80	€ 4.781.042.110,69	€ 3.352.171.602,91	€ 3.352.097.360,82	€ 3.099.761.963,95	€ 2.407.072.069,39	€ 6.309.067.039,76	€ 7.502.760.941,60	€ 10.047.622.897,05	€ 11.474.304.839,20	€ 11.466.605.727,02
DK	Total									€ 289.988.000,88	€ 1.785.451.905,05	€ 1.291.795.063,78	€ 572.074.813,46	€ 2.118.508.310,99
	Average									€ 13.181.272,77	€ 85.021.519,29	€ 58.717.957,44	€ 27.241.657,78	€ 96.295.832,32
EE	Total													
	Average													
ES	Total	€ 1.282.229.521,74	€ 225.796.440,62	€ 1.491.825.120,10	€ 6.641.052.593,29	€ 2.718.204.214,09	€ 1.681.816.237,49	€ 982.667.767,07	€ 501.643.631,02	€ 562.417.369,80	€ 463.562.074,18	€ 755.045.667,73	€ 184.145.700,69	€ 2.091.756.210,30
	Average	€ 64.111.476,09	€ 10.752.211,46	€ 71.039.291,43	€ 316.240.599,68	€ 123.554.737,00	€ 76.446.192,61	€ 46.793.703,19	€ 21.810.592,65	€ 25.564.425,90	€ 22.074.384,48	€ 34.320.257,62	€ 8.768.842,89	€ 95.079.827,74
EU	Total	€ 387.729,20	€ 10.439.151,19	€ 18.242.334,28	€ 5.624.996,51	€ 13.403.093,16	€ 4.712.260,30	€ 4.072.634,63	€ 2.072.172,17	€ 5.421.690,47	€ 17.029.888,31	€ 16.809.877,42	€ 7.275.596,97	€ 2.890.457,69
	Average	€ 19.386,46	€ 497.102,44	€ 868.682,58	€ 267.856,98	€ 609.231,51	€ 214.193,65	€ 193.934,98	€ 90.094,44	€ 246.440,48	€ 810.947,06	€ 764.085,34	€ 346.457,00	€ 131.384,44
R	Total									€ 509.003.639,11	€ 1.170.076.570,44	€ 1.198.335.708,67	€ 1.713.814.163,24	€ 1.598.682.381,70
	Average									€ 23.136.529,05	€ 55.717.931,93	€ 54.469.804,94	€ 81.610.198,25	€ 72.667.380,99
FR	Total	€ 1.296.545.634.974,11	€ 1.544.144.655.095,00	€ 1.897.134.649.828,93	€ 2.116.757.857.149,15	€ 2.098.002.718.433,12	€ 1.932.053.477.124,61	€ 1.716.439.045.292,87	€ 1.579.709.550.415,10	€ 4.212.041.884.931,39	€ 5.289.398.589.530,39	€ 5.714.224.940.185,06	€ 5.505.204.245.539,19	€ 6.078.063.282.260,96
	Average	€ 64.827.281.748,71	€ 73.530.697.861,67	€ 90.339.745.229,95	€ 100.797.993.197,58	€ 95.363.759.928,78	€ 87.820.612.596,57	€ 81.735.192.632,99	€ 68.683.023.931,09	€ 191.456.449.315,06	€ 251.876.123.310,97	€ 259.737.497.281,14	€ 262.152.583.120,91	€ 276.275.603.739,13
GR	Total	€ 86.604.927.980,70	€ 131.920.985.259,99	€ 127.293.283.926,65	€ 85.386.608.257,44	€ 153.834.444.757,16	€ 165.180.346.297,09	€ 159.731.347.715,73	€ 138.723.077.545,21	€ 188.685.018.666,80	€ 139.853.993.281,62	€ 135.380.773.872,54	€ 153.390.976.671,37	€ 156.130.809.687,61
	Average	€ 4.330.246.399,04	€ 6.281.951.679,05	€ 6.061.584.948,89	€ 4.066.028.964,64	€ 6.992.474.761,69	€ 7.508.197.558,96	€ 7.606.254.653,13	€ 6.031.438.154,14	€ 8.576.591.757,58	€ 6.659.713.965,79	€ 6.153.671.539,66	€ 7.304.332.222,45	€ 7.096.854.985,80
HR	Total													
	Average													
IE	Total													
	Average													
IT	Total	€ 2.771.503.303.809,94	€ 2.843.602.153.432,18	€ 3.156.902.501.005,83	€ 3.204.386.537.721,41	€ 3.314.277.695.044,11	€ 3.120.202.084.462,07	€ 2.859.998.290.800,61	€ 2.796.804.240.037,06	€ 2.920.161.803.875,45	€ 2.985.138.412.758,72	€ 3.013.180.881.896,65	€ 2.903.046.372.592,03	€ 3.336.805.579.021,57
	Average	€ 138.575.165.190,50	€ 135.409.626.353,91	€ 150.328.690.524,09	€ 152.589.835.129,59	€ 150.648.986.138,37	€ 141.827.367.475,55	€ 136.190.394.800,03	€ 121.600.184.349,44	€ 132.734.627.448,88	€ 142.149.448.226,61	€ 136.962.767.358,94	€ 138.240.303.456,76	€ 151.672.980.864,62
LT	Total													
	Average													
LU	Total	€ 1.579.658,26	€ 304.744,71	€ 618.793.690,23	€ 3.074.150.204,50	€ 2.248.754.414,74	€ 4.257.750.129,24	€ 1.945.624.595,58	€ 1.872.725.674,74	€ 4.536.869.048,56	€ 2.753.423.626,46	€ 4.676.699.290,22	€ 5.121.462.359,36	€ 3.959.975.448,81
	Average	€ 78.982,91	€ 14.511,65	€ 29.466.366,20	€ 146.388.104,98	€ 102.216.109,76	€ 193.534.096,78	€ 92.648.790,27	€ 81.422.855,42	€ 206.221.320,39	€ 131.115.410,78	€ 212.577.240,46	€ 243.879.159,97	€ 179.998.884,04
LV	Total													
	Average													
MT	Total	€ 83.835.221,28	€ 86.113.458,24	€ 61.077.181,29	€ 101.987.190,94	€ 98.421.530,01	€ 65.065.404,88	€ 67.946.788,06	€ 65.742.699,59	€ 43.375.378,91	€ 67.644.794,87	€ 161.151.145,33	€ 99.784.570,75	€ 68.303.737,87
	Average	€ 4.191.761,06	€ 4.100.640,87	€ 2.908.437,20	€ 4.856.532,90	€ 4.473.705,91	€ 2.957.518,40	€ 3.235.561,34	€ 2.858.378,24	€ 1.971.608,13	€ 3.221.180,71	€ 7.325.052,06	€ 4.751.646,23	€ 3.104.715,36
NL	Total	€ 7.097.784.459,75	€ 7.436.164.966,26	€ 8.524.080.400,44	€ 10.733.897.488,62	€ 11.237.935.981,45	€ 10.516.602.156,36	€ 7.666.635.626,82	€ 10.732.255.893,14	€ 50.172.086.399,16	€ 65.718.528.362,82	€ 67.807.207.116,71	€ 63.851.519.965,99	€ 87.290.962.357,56
	Average	€ 354.889.222,99	€ 354.103.093,63	€ 405.908.590,50	€ 511.137.975,65	€ 510.815.271,88	€ 478.027.370,74	€ 365.077.886,99	€ 466.619.821,44	€ 2.280.549.381,78	€ 3.129.453.731,56	€ 3.082.145.778,03	€ 3.040.548.569,81	€ 3.967.771.016,25
PL	Total													
	Average													
PT	Total			€ 2.160.222.886,27	€ 11.105.478.251,65	€ 13.180.403.747,18	€ 11.160.309.416,08	€ 11.512.879.887,13	€ 5.982.215.124,80	€ 12.504.728.099,46	€ 12.825.693.581,95	€ 14.173.495.635,15	€ 9.450.429.763,94	€ 8.290.703.242,76
	Average			€ 102.867.756,49	€ 528.832.297,70	€ 599.109.261,24	€ 507.286.791,64	€ 548.232.375,58	€ 260.096.309,77	€ 568.396.731,79	€ 610.747.313,43	€ 644.249.801,60	€ 450.020.464,95	€ 376.850.147,40
RO	Total													
	Average													
SI	Total													
	Average													
SK	Total													
	Average													

4. SLA Monitoring

Chart 18: *Availability*



	2016											2017
	February	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**	**January**
Sett. Liq. Management	100,00%	100,00%	99,78%	100,00%	100,00%	100,00%	99,75%	99,16%	99,15%	98,42%	97,89%	99,90%
Static data	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	99,90%
Information	100,00%	100,00%	100,00%	100,00%	99,09%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	99,90%

The following formula is used to calculate the availability:

$$a = \left(1 - \frac{d}{T_m}\right) \text{x } 100$$

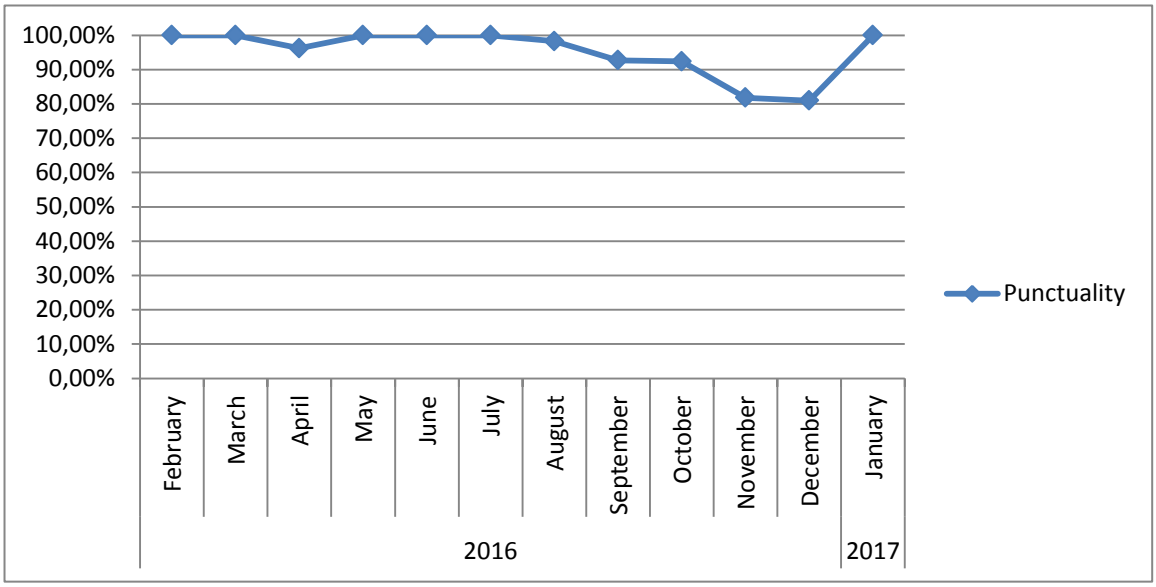
a= availability as percentage

d = cumulative downtime for the reporting period

T_m = total planned up-time for the reporting period

The downtime is the time between the start of an incident that causes the unavailability of a service and the closing of the incident that caused the downtime, i.e. when the service has been restored.

Chart 19: *Punctuality*



	2016											2017
	February	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**	**January**
Punctuality	100,00%	100,00%	96,19%	100,00%	100,00%	100,00%	98,26%	92,72%	92,38%	81,81%	80,96%	100,00%

The formula below is used to calculate the punctuality:

$$p = \left(1 - \frac{d}{a}\right) \text{ x } 100$$

Where:

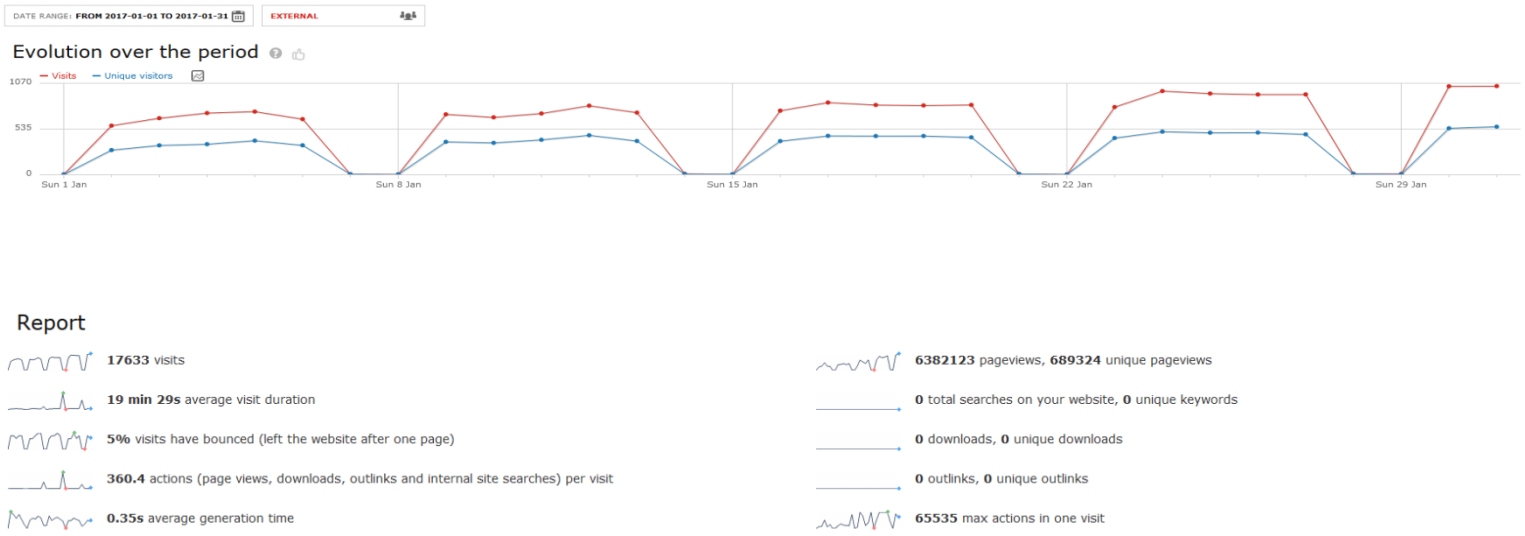
p = punctuality as percentage

d = number of relevant business events with a substantial delay in the reporting period

a = total number of relevant business events in the reporting period

The punctuality of T2S is measured by counting the number of occasions when a T2S business event is delayed for a time period exceeding the defined substantial delay for this event.

Chart 20: *T2S GUI Visitors Statistics*[3]



[3] **Average generation time**: This value represents the average amount of time it takes to load a page in the T2S webserver (excluding the time needed by the backend modules) and includes both the time it takes to generate the page, and the time it takes for the users to download it.

5. Reporting on the Incident and Crisis management process

In January 2017 T2S didn't experienced major incidents requiring the involvement of the Crisis Managers. Nevertheless, 1 minor incidents occurred on the 24th which caused short delay in the start of the Real Time Settlement after the Maintenance Window, thus impacting the calculation of the availability rate.

5.1 Feedback on Crisis managers conference calls (if any)

Nothing to report.

5.2 Lessons learned from conference calls and incident/crisis management process

Nothing to report.

6. Other

Nothing to report.