

# ATOS - TOWARDS ZERO EMAIL COMPANY

## *Teaching Case*

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## **Abstract**

*In 2011, the CEO of Atos, Thierry Breton, announced an unprecedented move for Atos. The global information services giant became a “zero” email company with the objective of eradicating internal e-mail use and replacing it with blueKiwi – enterprise social network software. This case serves to teach the challenges and key lessons behind the social collaboration transformation in a large organisation where 76,000 employees switched to a new mode of collaboration. The approach of how to become a “zero” email company is detailed, highlighting the importance of the first-order and second-order change. The case helps to understand what it takes to shift organisational culture and employee mindset, as well as what challenges and barriers need to be overcome to make such an important step on a large organisational scale.*

*Keywords: Social collaboration; E-mail; Zero-email; Enterprise social network; blueKiwi*

## 1 Introduction

Back in 2011, the CEO of Atos, Thierry Breton, announced an unprecedented move for the global information services giant – becoming a “zero email” company. Despite scepticism and criticism that accompanied the announcement, The Atos Zero email™ program was born with the unique objective of changing the way that 76,000 employees based in 47 countries communicated and collaborated. Thierry was persuaded that email was not the most effective way to collaborate, connect, and communicate; instead, a shift was needed to a more collaborative platform. Indeed, “He [Mr. Breton] estimated that barely 10% of the 200 messages his employees received on an average day were useful, and that 18% were spam. Managers spent between five and 20 hours a week reading and writing emails” (Financial Times, 2013). A study done at Atos among 300 employees measuring their total email traffic for one week showed that they generated 85,000 messages (sent or received emails). Another scary statistics revealed that 73% of employees spent more than one-quarter of their time managing email, while the majority sees this time as wasted, providing no added value to their productivity.

These numbers clearly give reason and justification to Thierry Breton for making such a rare decision in the corporate world. However, the move was not an easy one, and certain challenges arose at all levels of the organisation.

## 2 Atos – a “zero email” company

### 2.1 E-mail Challenges

Electronic mail, more commonly called e-mail, is largely considered to be the ideal tool to use for communicating, collaborating, managing people, archiving, etc. Today, its use is still widespread in organisations and will probably not decrease anytime soon. It clearly brings many advantages, ranging from its simplicity to the speed of use. However, despite all its advantages, it also presents a number of drawbacks. At Atos, its 76,000 employees produce in average 60 emails per day, which results in over 1,000,000,000 emails each year. It was estimated that more than 50% of Atos employees’ spend 3 hours (Figure 1) per day on email. The same study found that 44% of employees received more than 100 emails per day (Figure 2). For the Atos CEO, there was no doubt that this email overload was a critical challenge that needed to be solved as it was “fast polluting our working environments and also encroaching into our personal lives...the volume of emails we send and receive is unsustainable for business” (Atos, 2011).

How much time do you spend on email on an average business day (including filing, searching and deleting)?

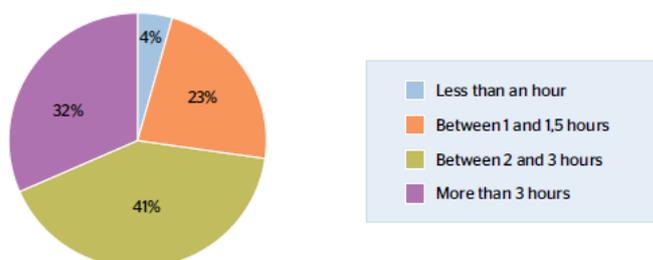


Figure 1. Time spent on email at Atos (Atos AT, 2013)

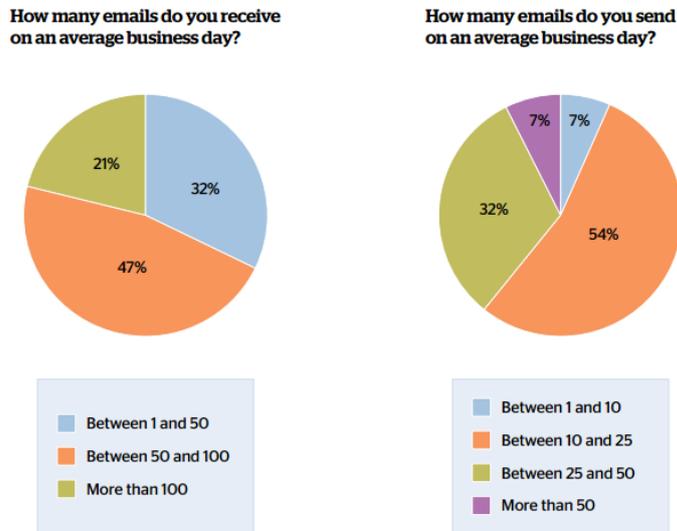


Figure 2. Received emails at Atos (Atos AT, 2013)

Another important fact is that many recently hired employees, who are usually represented by the younger generation, were coming to Atos with ‘always-on’ mentality and ‘always connected’ tools like smartphones. This younger generation is not a big fan of email; in fact, only 18% of them prefer to use email as method of communication (Millennialbranding, 2014). Others follow all the recent trends and use the available tools and apps that they find freely available to connect and communicate amongst themselves. It is clear that once they cross enterprise borders, their existing usage habits will also affect how companies communicate.

Overall, 75% of Atos employees spend on average more than 25 per cent of their work time on email activities (Figure 3). “I get too much email” was recognized as another important factor by 73% of respondents.

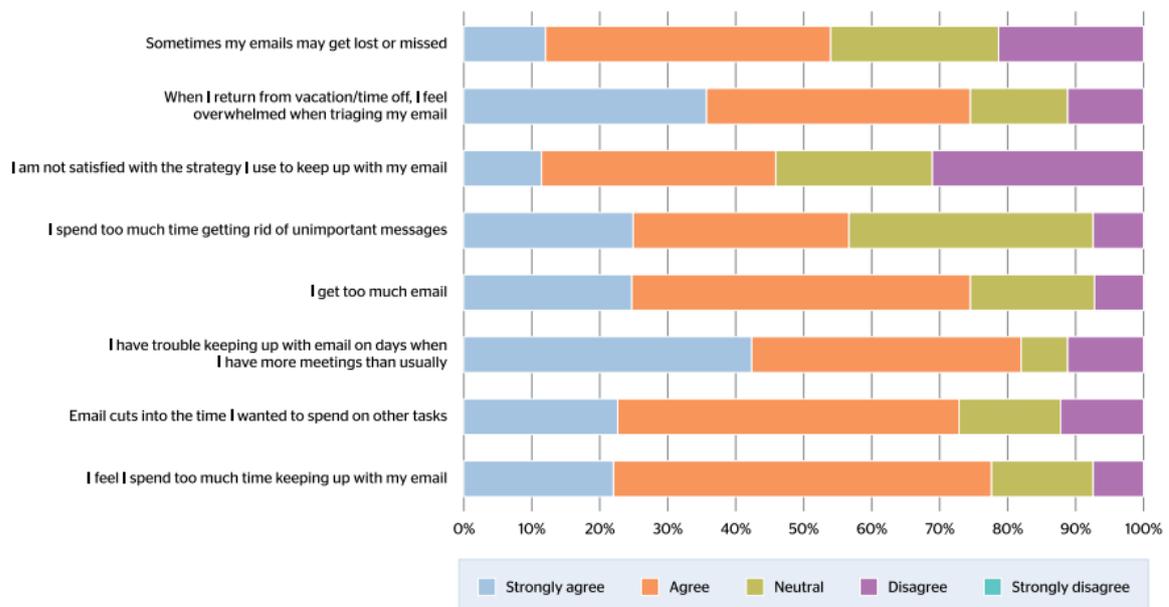


Figure 3. Atos employees’ survey on Email use (Atos AT, 2013)

Staff turnover is another good reason for shifting away from an e-mail mind-set. More specifically, due to a relatively high turnover in large organisations, the knowledge that is accumulated by employees in their e-mail in-boxes essentially disappears when they leave the company.

The misuse of the 'cc' functionality is often quoted as another reason for the e-mail overload. This creates e-mail ping-pong resulting in poor email practices in organisations, which leads to too many emails that need too much time to properly manage.

All of these factors led to the decision for Atos to ban internal company email only, not email to customers and other actors outside the company.

## **2.2 Social collaboration transformation**

It is clear that the way we work, communicate, and collaborate is shifting. However, this shift is not an easy task, as paying attention to email is more than a habit – it's practically an addiction. The first thing that almost every single employee does upon his arrival to work is to open its mail client (e.g. Outlook) and read, sort, answer, archive, or delete email messages. All of these actions take time, especially if you are not really concerned with the email topic and are simply 'cc-ed' in the email chain, which might be a very long one, from an original email to all 'cc-ed' ones. The number of 'reply to all' actions can explode, resulting in the wasting of your time, as you still need to read each email to be sure that you are not actually responsible for some pending action on your side.

Prior to deciding about the final solution to use, Atos did already consider some existing tools that are mainly used for UC&C technology (Unified Communications and Collaborations) such as Microsoft Lync technology or SharePoint. Despite Microsoft Lync and SharePoint advantages both had several points that did not match the Atos' collaboration strategy. Microsoft Lync is a tool that cannot be used when people are offline and it is generally less suitable for capturing the structured knowledge. On the other side, SharePoint is not the best tool for the social collaboration nor it enables a smooth and fast communication between employees.

Atos realised that this situation was not sustainable and called for a change. This change was to transform the social collaboration techniques of the company.

This shift meant that Atos had to move away from an out-dated way of communicating to a new collaborative framework that called for innovative ways of engaging in new and different ways. One important fact that probably differentiates Atos, as compared to similar ESN implementations, is that Atos decided to implement social collaboration globally. The first step was to focus on changing the organisational culture, which meant that the social collaborative environment would need to be reshaped to achieve cultural shifts:

- Individual to community shift

BlueKiwi, the Enterprise Social Networking tool was joined by 76,000 Atos employees, who began to collaborate in more than 7,400 communities. The result was the removal of many silos and the simplification of the overall organisation to one that was "closer" and "smaller". This led to an easier way for employees to find experts or share the knowledge

that was missing in the previous arrangement. By adopting this collaborative approach, many individual mind-sets were erased.

- Controlling to Leading: The Collaborative Leadership factor

Collaborative culture requires a new management style. To achieve that new style, Atos invested in change management to support their top and middle managers. Over 5,000 managers were trained on the benefits of the ESN and were provided with examples of benefits in order to lead by example in the communities to which they belonged. It is clear that social collaboration impacted the organisation by advancing a new and unique social culture.

- Experts to Ambassadors shift

In order to spread the word of mouth and make the initiative a clear success, someone needs to promote it – an ambassador. In February 2014, Atos had over 3,500 ambassadors whose role was to train their peers and promote the Zero email program. This was a very important adoption factor. Another important decision was to create a space for experts in communities where they could answer questions asked by other employees, customers, or external partners.

- From Information overload to time for business

Atos has seen an important cultural shift where email was the key challenge for collaborative transformation. Faster and more efficient communication and collaboration was a result of Atos' social collaboration transformation. Previously, employees were assigned their daily job tasks through email, but today, this is done in the discussion forums where collaboration is greatly facilitated between all involved parties. In other words, Atos shifted away from information overload towards creating more time to do business and be less time being concerned by email overload.

## **2.3 BlueKiwi**

Atos introduced the Enterprise Social Network (ESN) by acquiring a start-up company blueKiwi in 2012. BlueKiwi is an advanced ESN that enables organizations to improve productivity through social collaboration.

Some of the features offered by BlueKiwi: Activity streams (real-time tracking of what's happening within the organization), Teamwork spaces (public or private workspace or community), Enterprise blogging (simple posts), Content sharing (share information and content), Enhanced collaboration tools and mobility (stay connected while on the move).

BlueKiwi was the key success factor of the "Zero" email initiative. It eliminated the complexity of the standard Atos job environment by providing one stop place where employees could collaborate, organize, exchange and share information. What is very unique with the BlueKiwi approach is that the focus is not on who you are inside of the organization but what you know (experience and expertise). And this created a positive environment where employees could contribute, share and exchange regardless of their functional position. At the end, for Atos this means that they managed to create a central repository of knowledge using the collective approach. Also, BlueKiwi empowered employees by giving them access to knowledge facilitating their decision making process.

Further, another important BlueKiwi’s contribution was the “social recommendation engine” which helps employees to create new connections and grow their network through their expertise and knowledge.

Overall, Atos social collaboration transformation started with the clear identification of the need that corresponded to the email overload and was followed by important cultural shifts. And the entire process required a very clear and precise approach.

## 2.4 The approach

To shape the Zero email vision, Atos relied on the scientific approach based on the work of Watzlawick, who differentiated between first-order and second-order change processes (Watzlawick et al., 1974). The first-order change process is doing more – or less – of something that we are already doing. First-order change is always reversible. On the other hand, second-order change is deciding – or being forced – to do something significantly or fundamentally different from what we have done before (The national academy, 2014). This approach, described in Figure 4, was adopted by Atos to implement the change.

First-order change	Second-order change
Adjustment within the existing system	Change of the existing system
Doing more or less of the same thing	Trying things ‘outside the box’
Generally reversible	Generally irreversible
Non-transformational	Transformational
Not much new learning	Requires new learning
No fundamental shift in values or behavior	Fundamental shift in values or behavior
Old story can still be told	New story needs to be told

Figure 4. First and Second-order change (Atos AT, 2013)

Overall, first-order change does not require any important changes and its implementation remains within the existing system. However, remaining with the first-order change was not enough for Atos to reach its objective of “Zero email”, as a more important shift is needed: second-order change. This includes the paradigm shift where employees need to think “outside the box” and learn the new approach. Important training is needed, along with an important shift in values and behaviours. What is clearly driving the second-order change is the CEO’s decision to stop the internal e-mail. The difficulty of the “second-order” change is in the fact that employees need to learn a new approach and at the same time question the existing process. In other words, questioning its own values and norms is needed to make the change. However, this change is not possible with a clear leadership engagement, involvement and support.

However, all these changes would not be possible without the employees’ support, which is an important precondition for the change to succeed. This was definitely the case for the Atos’ decision, as 69% of employees expressed their support for the “Zero email” initiative. Hence, Atos implemented a mixed strategy where first-order and second-order changes were combined and used independently. The first-order change remained necessary, mainly, because Atos did not give up on the external communication method which is still e-mail. That is why, mix of the two approaches was needed.

## **2.5 The barriers to change**

Some important barriers had to be overcome before starting the implementation of the Atos “Zero” email initiative. And these barriers are not only common to Atos as an organization, but they can be easily applied to any big company where “change” usually brings several obstacles that organization has to carefully approach.

The most important ones in Atos case were:

- Cultural change
  - Atos has employees in 66 different countries where cultural approach to change may be very different
  - New organizational culture had to be shaped to model the new ways of collaborating and working
- Management support
  - In every organization the success usually comes when the middle or low level management support is strongly present. The same situation is within Atos where this management support was one of the first barriers to overcome
- Technology
  - Introduction of every new technology brings important challenges as employees may reject the new technological advances for various reasons (e.g. fear of the unknown, used to the existing technology, syndrome of “too old to change”, etc.)
- User habits, education and expertise
  - Users habits, education and expertise are three areas that had high importance among barriers to overcome. How to efficiently educate employees to use the new social platform and gain expertise in order to minimise issues are two important aspects that Atos had to deal with. At the same time influence user habits dealing with different generations revealed to be another barrier that needed careful approach

Overall, Atos had to deal with several barriers before introducing the change. The approach that was used is described in the following sections.

## **2.6 How to get to Zero?**

In order to become a Zero email company, Atos followed several phases (Figure 5) that consisted of creating awareness among employees about the importance of the initiative. The envision phase supports the Atos strategy, proposes the roadmap and builds all the requirements necessary to succeed. It was also important to go through the experimental phase, which was used to pilot the program and produce quantifiable key performance indicators (KPIs). The implement phase consisted of the program’s implementation and an active communication and change management support structure. This led to the nurture phase, which concerns the program evaluation and ways it can be improved based on key experiential lessons.

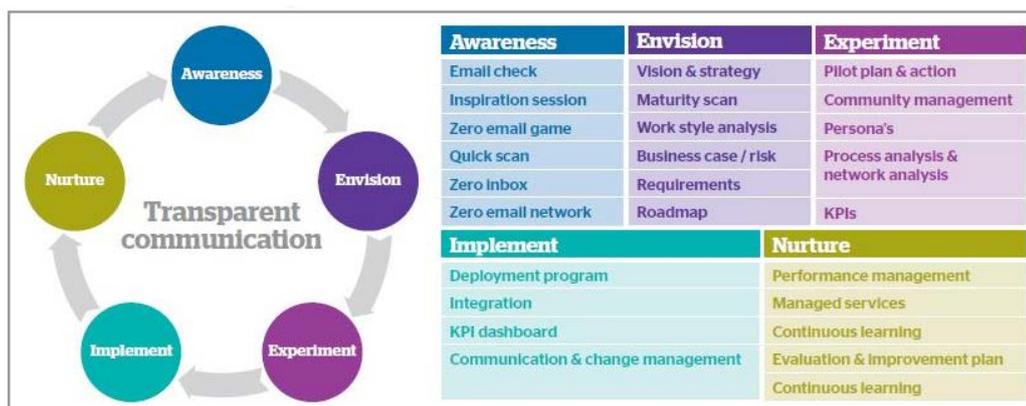


Figure 5. The social collaboration evolution cycle (Atos UK, 2014)

An important driver of reaching Zero email was the leaders' engagement. To support that engagement, in 2013, 10% of a Top-700 leader's bonus was tied to the Zero email campaign performance.

A bonus scheme is applied to reach the objectives, which turned out to be a very smart approach, as higher levels of managers delegated the actionable objectives to lower levels, which were much closer to teams or one-on-one levels.

Sharing success stories was another way of promoting the initiative. Atos accumulated more than 100 success stories from the thousands of bottom-up collaboration efforts and identified a set of "lighthouse communities" that represent what success looks like to serve as examples for others.

## 2.7 Example of "Zero" driven process change

How to create a requirement document without e-mail? At Atos, prior to the Zero email program, it would be by setting up a project team, getting all stakeholder involved, identifying the key requirements, preparing a document and sending it via e-mail to all people involved for their comments, remarks and suggestions. Final step would be to set-up a meeting to review and discussed the new user requirement document. Then the process would be pretty much reiterated with repetition of all the steps and always sending new versions of the updated documents through e-mail. Following the "first-order" process this is how a typical project setting would look like.

Another possibility in front of Atos is to use the "second-order" change to create the user requirement document. Atos, in this example used micro-blogging platform (Yammer) as supporting tool, an online mapping tool (mindmap) and a document management system (wiki). In this scenario, Atos's team did not use email as the communication method. One of the first advantages was avoiding any formal meetings (face to face meetings) which save valuable time for many involved stakeholders and project team members. Second major advantage is significant gain in time as faster production time was made possible. Thirdly, involvement of more people in the "second-order" change approach was possible when compared to the previous approach.

Overall, the process looks like this: 1. Team creation – this was done by gathering around virtual the cool water – yammer – enterprise micro blogging tool. In couple of days more than 30 people were involved in the project and submitted the requirements for the user document. Next step was to leverage the employees involvement by launching an asynchronous online brainstorm; 2. Brain storming – Mindmeister, an online mind mapping tool, is used to visualize and organize the content from Yammer that was structured in groups and subgroups. After an initial version a mindmap was created, and

a link was posted on Yammer inviting people to update the mindmap. In only few days, the whole initial mindmap completely changed receiving high attention and focus from an important number of participants. The next phase of the process was triggered by a decreased attention (which started to decline at some point) from participants. It was decided that the final version is ready to go to the next phase; 3. Community writing – after exporting the mindmap to RTF format (Rich Text Format) it was imported into the enterprise wiki – Confluence. A wiki structure was created with a parent page, several subpages, and sub paragraphs. One of the reasons for transforming the document to a wiki is because a wiki can handle different version controls. This enables several features such as the roll back possibility. A new message was posted on Yammer inviting employees to participate and write the user requirements document in the wiki space. In total, over 60 people contributed providing their comments and creating the final version of the document that was ready for rating; 4. Quality rating – Atos uses rating of work process which provides a rating to the completed work. The members of the Atos Scientific Community are providing a rating on a scale of 5 and if the document gets a rating higher than 3.7 then it is accepted; in case of a lower rating – additional work has to be done.

Overall, email collaboration has numerous disadvantages vs wiki collaboration. In case of Atos, email did not show as the best way of supporting the unstructured business processes as Atos. Wiki is a much more suitable tool to support Atos business needs. Wiki is a very simple website which has ‘Edit’ and ‘Save’ options which allows editing the current content and storing the same. When ‘save’ button is hit, participants get a signal notifying them about the new version in place. These different dynamics are well presented in Figure 6.

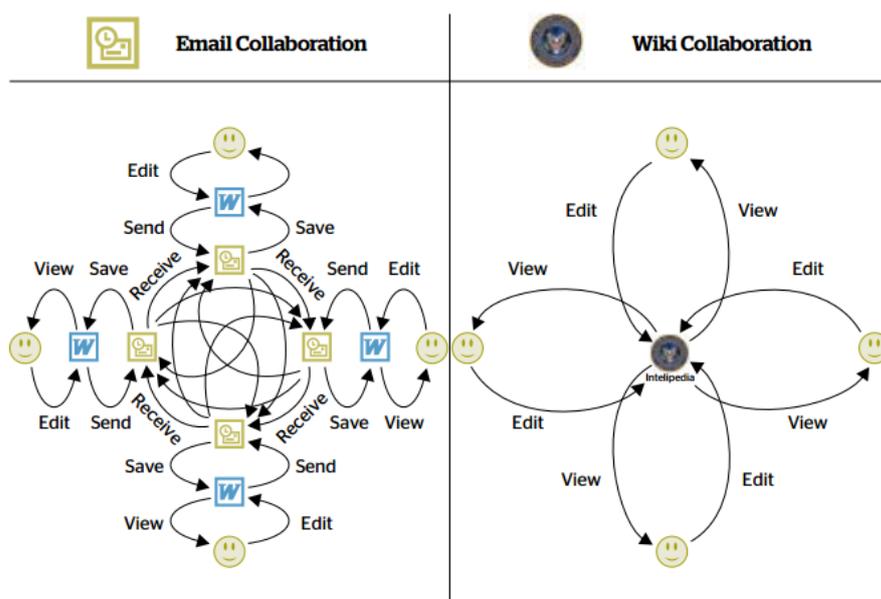


Figure 6. Email vs Wiki collaboration (Rasmussen, 2007)

### 3 Lessons on driving change through social collaboration

In 2013, Gartner wrote about the Atos “Zero email” initiative: “Atos is rallying around no email, but eliminating email is not its target objective. Atos is using its campaign more for its hot-button marketing power—both internal and external to the company. CEO and chairman, [Thierry] Breton, is trying to mitigate email as a barrier to change. And by announcing the Zero email initiative to the world, he is sending a clear message to the organisation that there is no going back”.

Before looking at the lessons learnt from this experience, it is important to set the right stage and look at Atos' financial numbers for 2013 and get the full understanding of the "Zero email" initiative results.

### 3.1 Atos financial results

Thierry Breton said: "In 2013, we completed the three-year plan announced in December 2010. As expected, profitability improved significantly with the operating margin increasing to 7.5% of revenue, free cash flow totalled more than €50 million, and earnings per share was up +50% compared to 2011. During this period, the Group focused on cash generation, leading to a net cash position above €00 million at the end of 2013". The Zero email program was credited by Atos' CEO as being a primary contributor of this business performance improvement. For Gartner, this claim was not that evident, "because numerous factors impact overall business success, it is difficult to tie a no-email program directly to corporate performance". Indeed, while the "Zero email" initiative did not achieve zero email by the end of 2013, for Gartner, "there is [still] evidence of strong social collaboration adoption and numerous success stories that, in aggregate, could have impacted overall corporate performance".

### 3.2 "Zero email" results

The Atos' "Zero email" initiative was kicked off in 2011 with the objective of completely removing internal e-mail usage.

In 2013, from an average 100 emails per mailbox, per week in 2011, the number of emails decreased to 40, which represents a 60% reduction. For mid-2014, a new reduction target of 80% was set. In addition to this reduction, 220 Atos processes have been certified as "e-mail free". Finally, there are currently more than 74,000 employees on blueKiwi that participate in 7,466 communities, posting an average of 300,000 times per month and accumulating over 2 million pages viewed per month. Atos also measured that 25% of work time previously spent on email activities shifted towards being spent on business activities.

Overall, Atos' "Zero email" initiative results are:

- >74,000 enterprise social network users
- More than 7,446 communities created (n = members)
  - 7,145 small (n<200 members)
  - 250 medium (200<n<1,000)
  - 46 large (1000<n>5,000)
  - 10 extra-large (n>5,000)
- >15,000 employees posting at least once per week
- >35,000 employees viewing 1.9 million pages per month (as of December 2013)
- >15,000 posts by Atos top management in December 2013

Speaking of Atos "Zero" email results Thierry Breton (Atos CEO) said in February 2014: "A great example of our people working together to achieve our business goals is our Zero email™ program. Since we announced our ambition three years ago, we have collectively reduced internal emails by 60% and global collaboration has improved by 20 times. In this new, emerging collaborative world we have taken the lead".

### **3.3 Lessons learnt**

Atos undertook this long and difficult path of shifting the organisational culture and employee mind-set on a large scale to access:

- Smarter and better ways of collaborating
  - Larger and more flexible teams could be created and the global team approach could be introduced to leverage the collaboration benefits
  - New technologies could be used for a faster and more dynamic collaboration between employees
- Opportunities to create new ideas, products and services and advance innovation with crowd-innovation communities
  - Innovation is an important new benefit as shorter-time to market and better results can be observed.
  - Real-time access to information and involvement from a wider group of people
- Higher competitiveness and productivity where knowledge is the key to succeed and will remain organizational best asset but only when shared
  - Employees are better connected with their peers and get faster access to knowledge and available content. Efficiency can be driven much faster which can reduce costs of managing information.
- Fulfilment of employees' needs through online communities and by sharing knowledge and best practices
  - Better work-life balance could be achieved
  - Empowering employees by giving them roles and responsibilities
  - Higher recognition of high performing individuals

It took three years for Atos to get some results out of its “Zero email” initiative. Three years may sound like a very long period, but if you want to succeed, you need to be patient. For Atos, “Social Collaboration implementation is a marathon, not a sprint. Its transformation begins in the inside of our organisation and gradually grows out to become a real social business ecosystem with employees, partners and customers”.

## **4 “Zero” email: the other side of the coin**

### **4.1 Can e-mail be replaced?**

Atos “Zero” email initiative is clearly a success. But the question is: can this email shift be sustainable and last? Are the employees really more productive by not using their Inbox? The question is not easy to tackle, but if we look at the current statistics (Figure 7), it is evident that the email growth is not slowing down. On the contrary, in the business context over 108B emails were sent in 2014 in the world.

So, can e-mail technology be replaced? For Atos, there is no doubt that it can and it seems Atos will drive this initiative till the complete email eradication.

Daily Email Traffic	2013	2014	2015	2016	2017
Total Worldwide Emails Sent/Received Per Day (B)	182.9	191.4	196.4	201.4	206.6
% Growth		5%	3%	3%	3%
Business Emails Sent/Received Per Day (B)	100.5	108.8	116.2	123.9	132.1
% Growth		8%	7%	7%	7%
Consumer Emails Sent/Received Per Day (B)	82.4	82.6	80.2	77.5	74.5
% Growth		0%	-3%	-3%	-4%

Figure 7. Worldwide email traffic<sup>1</sup>

But, If we ask Atos employees what was their experience with the “Zero” email initiative, there are some interesting points that suggest that there is always the other side of the coin to look at.

## 4.2 Better for an employee?

Clearly, Atos “Zero” email initiative has a top-down strategic approach where email is replaced by social collaboration technology being pushed by the top management.

From an employee standpoint “Email overload” problem is not because of having “bad email technology”, but rather a consequence of: more work, more professional contacts and much faster communication. In other words, the “information” issue will remain present no matter which technology platform is used. Overall, it is argued that today an average employee processes much bigger quantity of information in 24 hours compared to ten years ago.

Hence if an email is to be replaced by another technology, the key question is if the “information overload” will continue on this new technology or it will decrease.

Overall, Atos employees claim that “information overload” did decrease as they stopped using their Inbox which, consequently, should have resulted in the employee productivity increase. But, this still seems to be a “grey” area, difficult to measure and confirm. Another challenging point is that the quantity of the “external” email (e.g. coming from partners or 3<sup>rd</sup> parties) did not decrease which is directly impacting the “internal” email overload as employees still have to manage this “external” information flow.

## 5 Look ahead

Atos did not fully achieve its 2013 objective of “Zero” emails, but for Atos’ CEO, Thierry Breton, it is clear that the “Zero” email initiative is a very strong contributor to the overall performance of Atos in 2013. Gartner also supports this with a slightly more nuanced and cautious view by saying that “there is evidence of strong social collaboration adoption and numerous success stories that, in aggregate, could have impacted overall corporate performance”.

The reality is that Atos is continuing this unprecedented shift by increasing its target for 2014 and beyond; the company is convinced that this is the right change.

<sup>1</sup> <http://sourcedigit.com/4233-much-email-use-daily-182-9-billion-emails-sentreceived-per-day-worldwide/>

In the end, one might wonder whether we are witnessing the beginning of a revolution and the end of e-mail as we know it. One final remark from Atos about the Zero email initiative provides an interesting view about the paradox vs paradigm challenge of running such an initiative: “If organisations are prepared to recognise this shift and are brave enough to challenge conventional ways of thinking – if the vision of phasing out email and freeing up employees’ time to do more important things could, for example, become a reality – then the idea of doing more with less becomes less about paradox and more about paradigm. In other words it’s not impossible, it’s just difficult.”<sup>2</sup>

## 6 References

- ATOS. 2011. *Atos press release* [Online]. Available: [http://atos.net/en-us/Newsroom/en-us/Press\\_Releases/2011/2011\\_02\\_07\\_01.htm](http://atos.net/en-us/Newsroom/en-us/Press_Releases/2011/2011_02_07_01.htm).
- ATOS AT. 2013. *The "Zero Email" Company* [Online]. Available: <http://at.atos.net/content/dam/de/documents/atos-whitepaper-zeroemailcompany.pdf>.
- ATOS UK. 2014. *The social collaboration evolution cycle* [Online]. Available: <http://uk.atos.net/content/dam/global/images/we-do/zero-email-evolution-cycle.jpg>.
- FINANCIAL TIMES. 2013. *Atos 'zero email' initiative succeeding* [Online]. Available: <http://www.ft.com/intl/cms/s/0/11384220-8761-11e2-bde6-00144feabdc0.html#axzz3Eenf2VHo>.
- MILLENNIALBRANDING. 2014. *Gen Y and Gen Z Global Workplace Expectations Study* [Online]. Available: <http://millennialbranding.com/2014/geny-genz-global-workplace-expectations-study/>.
- RASMUSSEN, C. 2007. *Intell's wiki pied piper* [Online]. Available: <http://fcw.com/Articles/2007/12/13/Intells-wiki-pied-piper.aspx?Page=1>.
- THE NATIONAL ACADEMY. 2014. *Leadership & Institutional Change* [Online]. Available: <http://www.thenationalacademy.org/ready/change.html>.
- WATZLAWICK, P., WEAKLAND, J. H. & FISCH, R. 1974. *Change: Principles of problem formation and problem resolution*, WW Norton.

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<sup>2</sup> <http://uk.atosconsulting.com/content/dam/uk-atosconsulting/documents/We%20Are/atos-consulting-positioning-paper-doing-more-with-less-the-new-productivity-paradigm.pdf>