knowledge17

WORK at LIGHTSPEED

How enterprise service management enabled significant savings in the operations of our hotels.

Reinoud Martens

Service Manager

CERN

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servicenow

CERN: European Research Lab Created in 1954

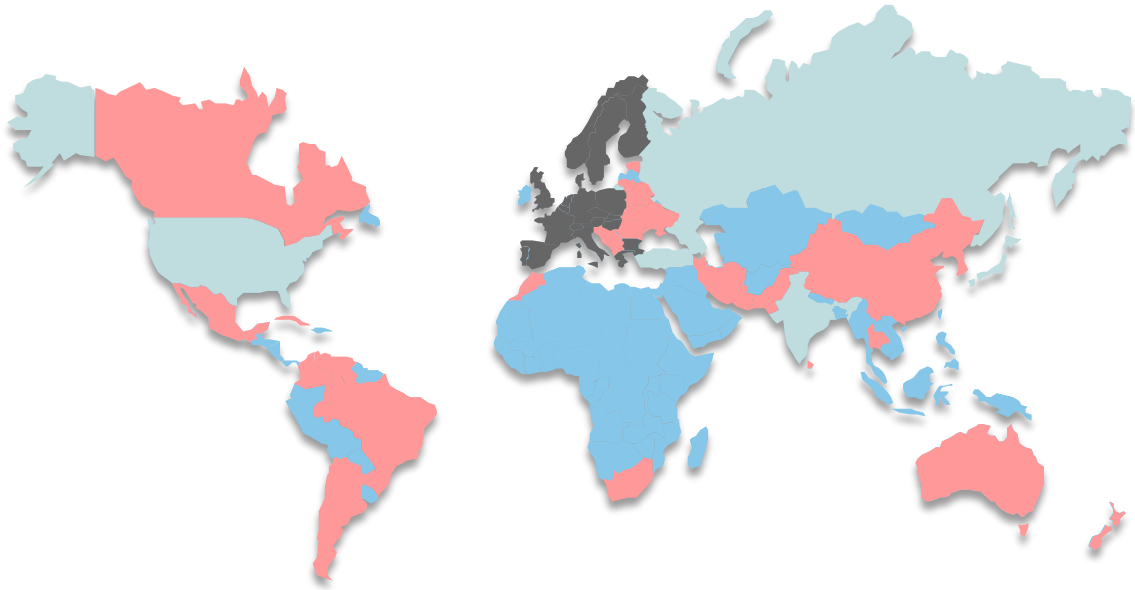
Today The largest particle physics laboratory in the world

21 member states



- Germany
- France
- United Kingdom
- Italy
- Spain
- Netherlands
- Switzerland
- Belgium
- Poland
- Sweden
- Norway
- Austria
- Denmark
- Greece
- Finland
- Portugal
- Israel
- Czech Republic
- Hungary
- Slovakia
- Bulgaria

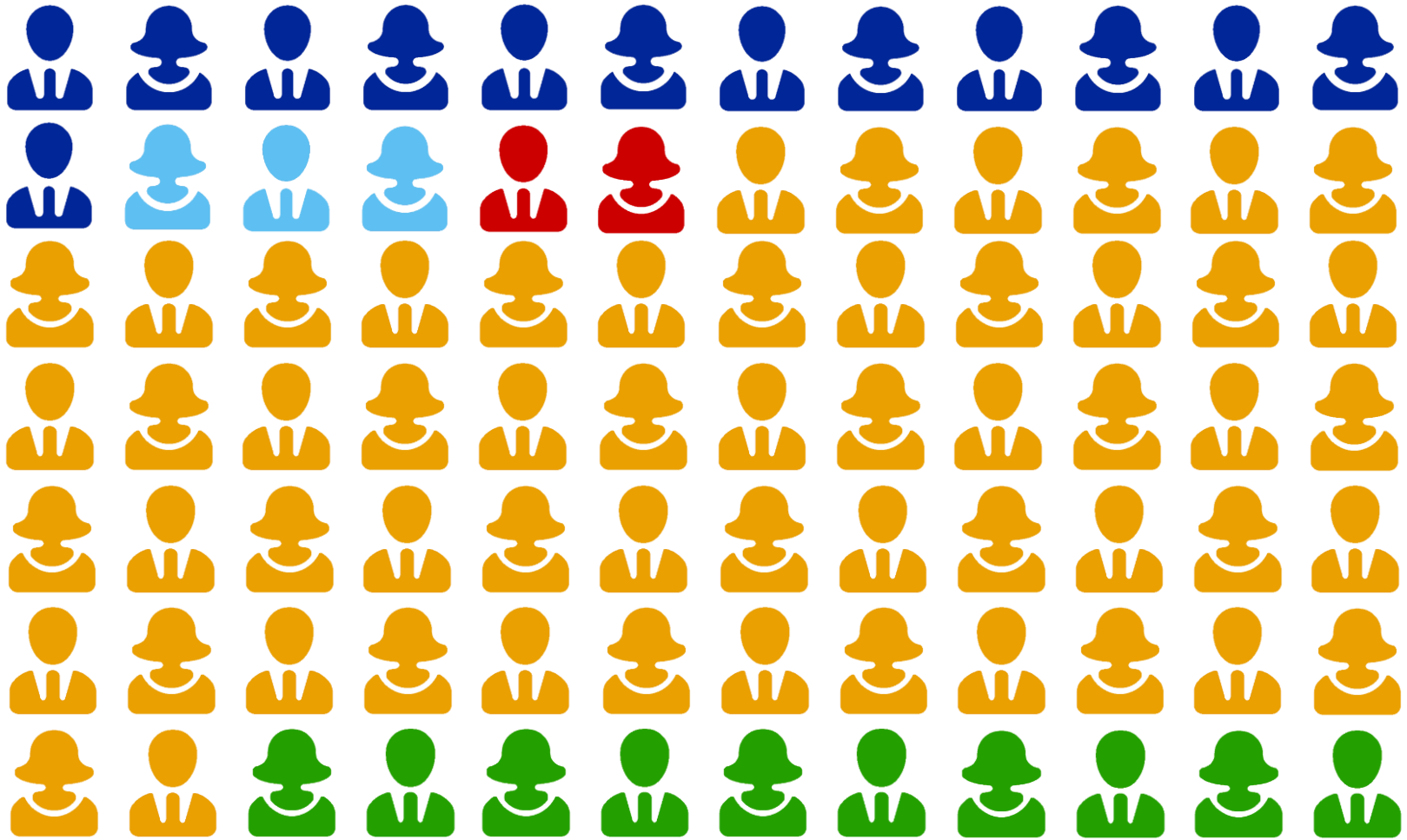
And a world collaboration



Associates
Cooperation agreements
Observers
Scientific contacts

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How many people? +15’000!



2’500 staff

600 fellows & apprentices

500 students

12’000 physics users

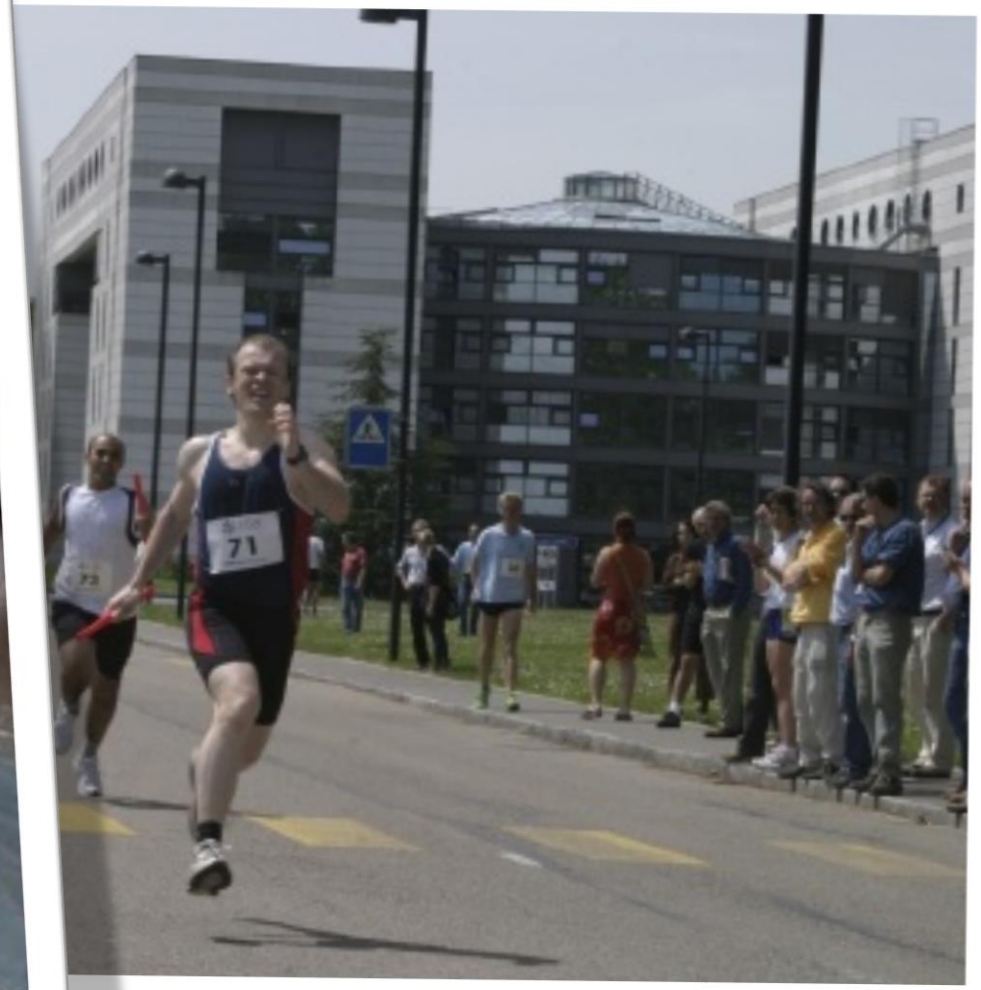
2’000 contractor employees

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Like a small town

- 2
-
-
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Fundamental Research

- Answering fundamental questions
  - Where has all the primordial antimatter gone?
  - How to explain why particles have a mass?
  - What was the state of matter just after the “Big Bang”
  - What is the universe made of?



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Bringing nations together and educating

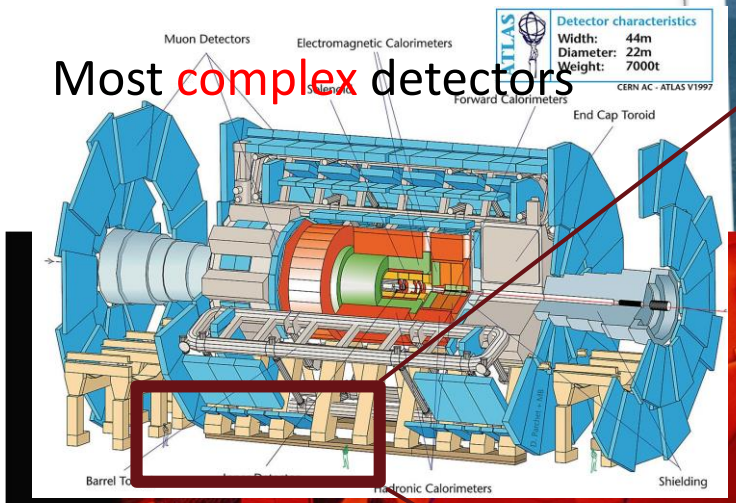
- Biggest international scientific collaboration
- Various student programmes
- More than 100 countries
- Hundreds of physics institutes
- Half of the world's particle physicists



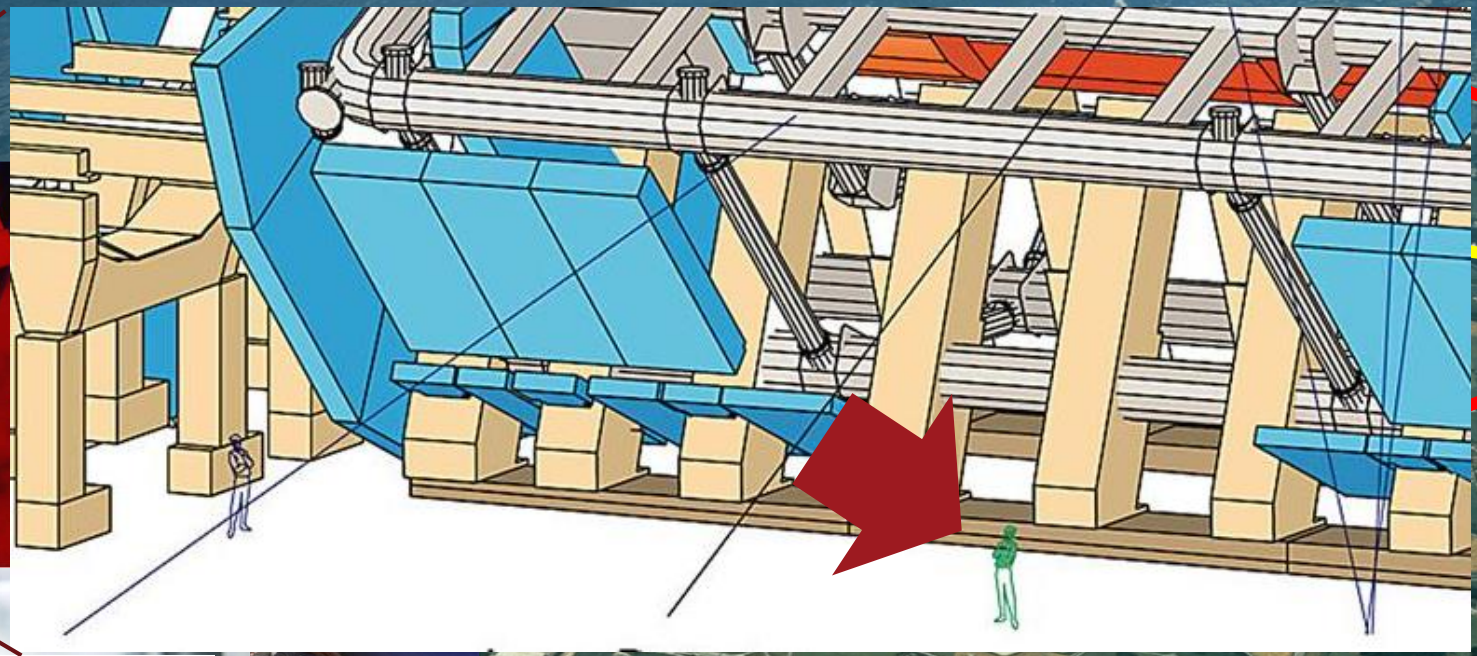
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The largest particle accelerator

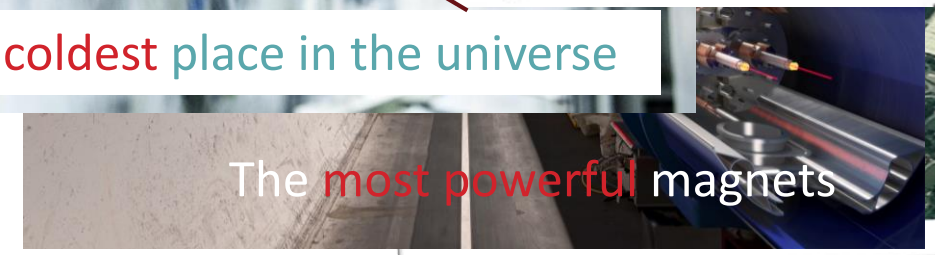
Most complex detectors



The highest vacuum



The coldest place in the universe



The most powerful magnets

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Service Management @ CERN: GOALS

1. **Simplify <u>users</u>** and supporters life by providing:
   - **ONE** point of contact (**ONE** #, **ONE** url, **ONE** place)
   - **ONE** behavior; Unified processes for all services
   - **ONE** solution shared by all service providers (sharing information and knowledge)
   - **ONE** business service catalogue

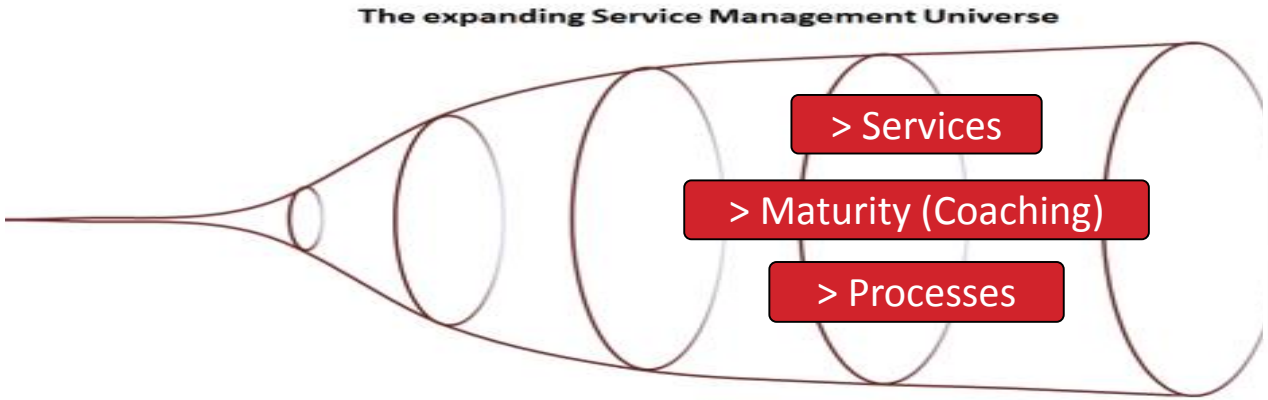
     (clearly defining what services are provided to whom by whom at which quality levels).
2. **Optimize** efficiency and effectiveness (@ **<u>CERN</u>**)
   - Alignment with good practice (ITILv3 and ISO20k)
   - High level of automation
   - Framework for continuous improvement
3. **Improve** monitoring and control for **<u>management</u>** (dashboards)

AND DO THIS FOR <u>ALL SERVICES</u> (NOT ONLY IT)

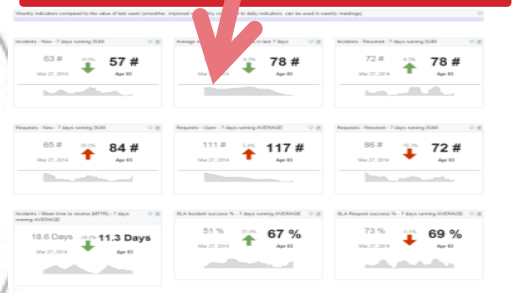


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Servicenow@CERN, a long (hi)story



KPI's & DASHBOARDS !



Catalog and Processes and Portal in **ServiceNow**

Convince Peers & Management

Solution Selection

Eureka !

IT joins; Project Starts

Solution Chosen

Go Live

KPI Dashboards

CERN reorganized (transparent!)

2009 2010 2011 2012 2013 2014 2015

Train 400 **Supporters**

1000 **Supporters**

1300 **Supporters**

Mobile applications

Extend Catalog and Processes to IT

Recruit and train **Service Desk**

>350000 End User Inc/Req Resolved

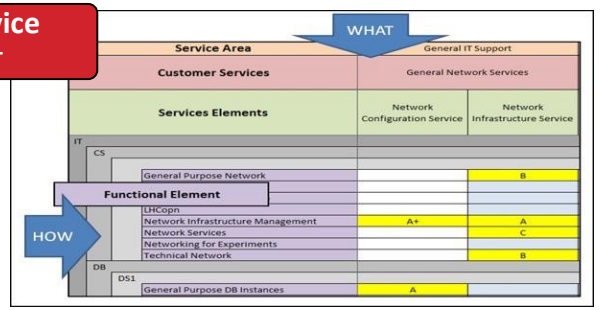
Work Orchestration

>250000 tickets / year

MANAGEMENT REQUESTS KPI DASHBOARD

Define user Facing Processes for Non IT (**Request and Incident**)

Define **Business Service Catalog** for Non IT



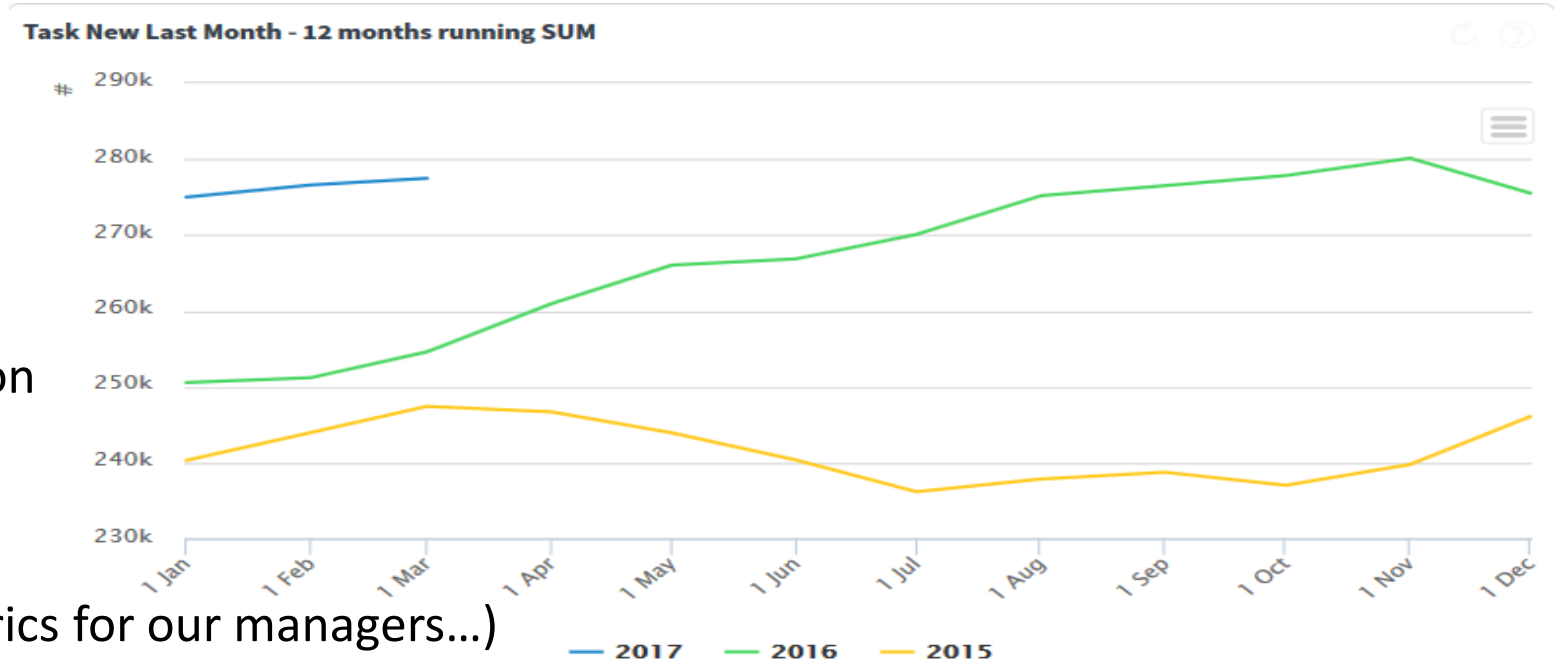


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6 Years of Enterprise service management @ CERN

- Annual **growth** # cases ~ **12%**
- Focus in last years shifted from
  - end user experience

  To
  - process support / work orchestration
- We **improved**
  - **efficiency** (users and supporters)
  - **control** (transparency through metrics for our managers…)



- We **enabled** the continuous improvement process
- We **facilitated** collaboration and knowledge sharing
- We think we help CERN to become more **efficient and effective**..

BUT.. **HOW MUCH?**

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Where is the business case; where are the savings?

Ref.	Metric: Supporter personnel hiring avoidance	Calculation	2011	2012	2013	2014	2015	2016	Average
a	Users Community at CERN (Official figures)		13,595	14,247	14,324	15,149	15,786	16,647	
b	Service Support Personnel (MPE on the payroll)		632	651	673	688	692	700	
c	Growth of User Community		3.4%	4.8%	0.5%	5.8%	4.2%	5.5%	
d	Growth of Supporter Personnel		1.2%	3.0%	3.4%	2.3%	0.6%	1.2%	
e	Delta growth		2.2%	1.8%	-2.9%	3.5%	3.6%	4.3%	
	Value of supporter personnel hiring avoidance	b*e*average FTE cost	**2,459,452**	**2,032,758**	**- 3,439,964**	**4,270,909**	**4,467,823**	**5,352,503**	**2,523,914**

Ref.	Metric: Time saved by User MPE due to SPOC, single process, and tool	Calculation	2011	2012	2013	2014	2015	2016	Average
a	User generated tickets per year (Only paid members of personnel)		27,766	40,576	51,347	60,488	72,989	82,840	
b	Mins saved per ticket (compared to legacy means to drive a service)	10 mins per ticket	277,660	405,760	513,470	604,880	729,890	828,400	
c	Number of working days saved	b/60/8	578	845	1,070	1,260	1,521	1,726	
	Value of time saved by CERN paid members of personnel	c/(working days per year)*(average FTE cost)	**478,068**	**698,627**	**884,079**	**1,041,466**	**1,256,705**	**1,426,317**	**964,210**

Ref.	Metric: Time saved by Supporter MPE due to single tool and process	Calculation	2011	2012	2013	2014	2015	2016	Average
a	User generated tickets per year (Full population)		21,607	27,601	31,526	43,742	53,009	61,558	
b	Mins saved per ticket (compared to excel, sharepoint, or other 'tool')	10 mins per ticket	216,070	276,010	315,260	437,420	530,090	615,580	
c	Number of working days saved	b/60/8	450	575	657	911	1,104	1,282	
	Value of time saved in supporters community on CERN payroll	c/(working days per year)*(average FTE cost)	**372,024**	**475,227**	**542,806**	**753,138**	**912,695**	**1,059,889**	**685,963**

Ref.	Metric: Time saved in support teams due to service desk	Calculation	2011	2012	2013	2014	2015	2016	Average
a	Number of tickets 'touched' by service desk		35,641	54,886	70,239	77,378	81,634	94,358	
b	Mins per ticket saved in higher support lines	5 mins per ticket	178,206	274,428	351,194	386,891	408,172	471,790	
	Value of time saved in higher support lines due to service desk	b/60/8/(working days per year)*(delta average FTE cost service desk and 2nd line)	**190,888**	**293,957**	**376,187**	**414,424**	**437,219**	**505,365**	**369,673**

	Total savings	**All amounts in CHF**	**3,500,431**	**3,500,569**	**- 1,636,892**	**6,479,937**	**7,074,441**	**8,344,074**	**4,543,760**

"Back of the envelope" calculations

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Another Example: Hotels @ CERN; 3 buildings













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Example: Hotels @ CERN; 446 Rooms







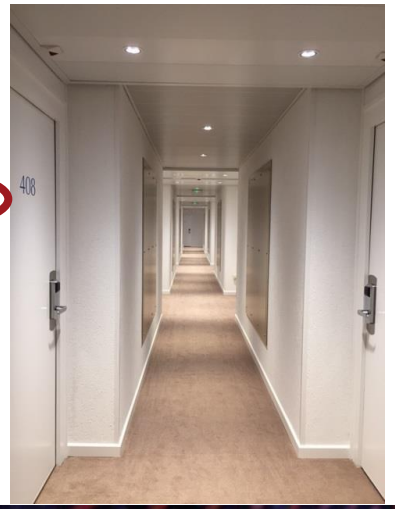


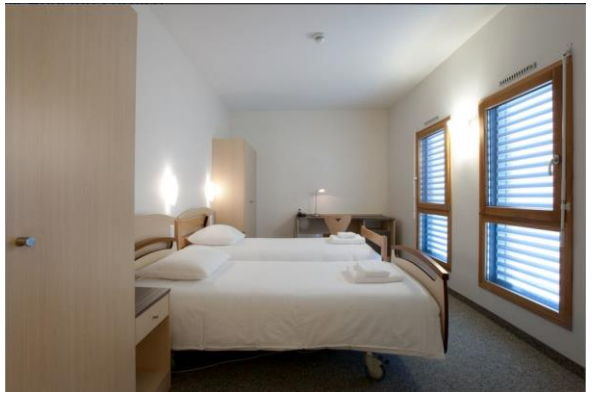
Relatively Cheap and Simple

1.2 Room rates

(per person, per night, unless otherwise indicated)

SHARED ROOM with washbasin (1 bed in a shared double room)	CHF 14
SINGLE with washbasin	CHF 27
TWIN with washbasin, shower, toilet (occupied by 2 persons)	CHF 38.50
SINGLE with washbasin, toilet	CHF 48
SINGLE with washbasin, shower, toilet	CHF 58
TWIN with washbasin, shower, toilet (occupied by 1 person)	CHF 64







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Example: Hotels @ CERN: Facilities

- Reception
- Kitchens
- Laundry rooms
- TV rooms









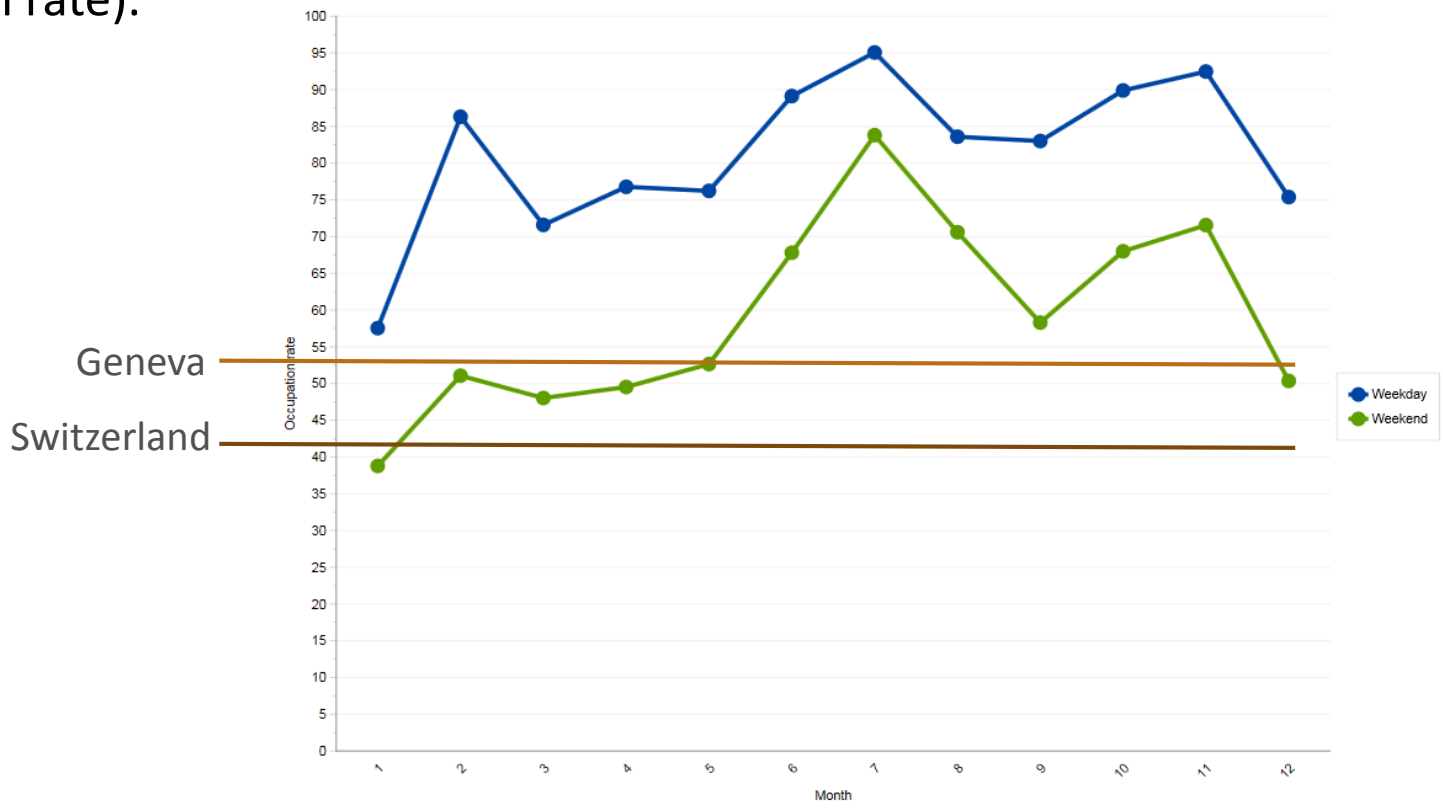
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Hotels @ CERN: Bit Special

- Prices ~3 times lower than market prices in Switzerland.
- Guests strictly limited to non commercial visitors that are here for science related reasons.
- Demand is very high (~80% occupation rate).

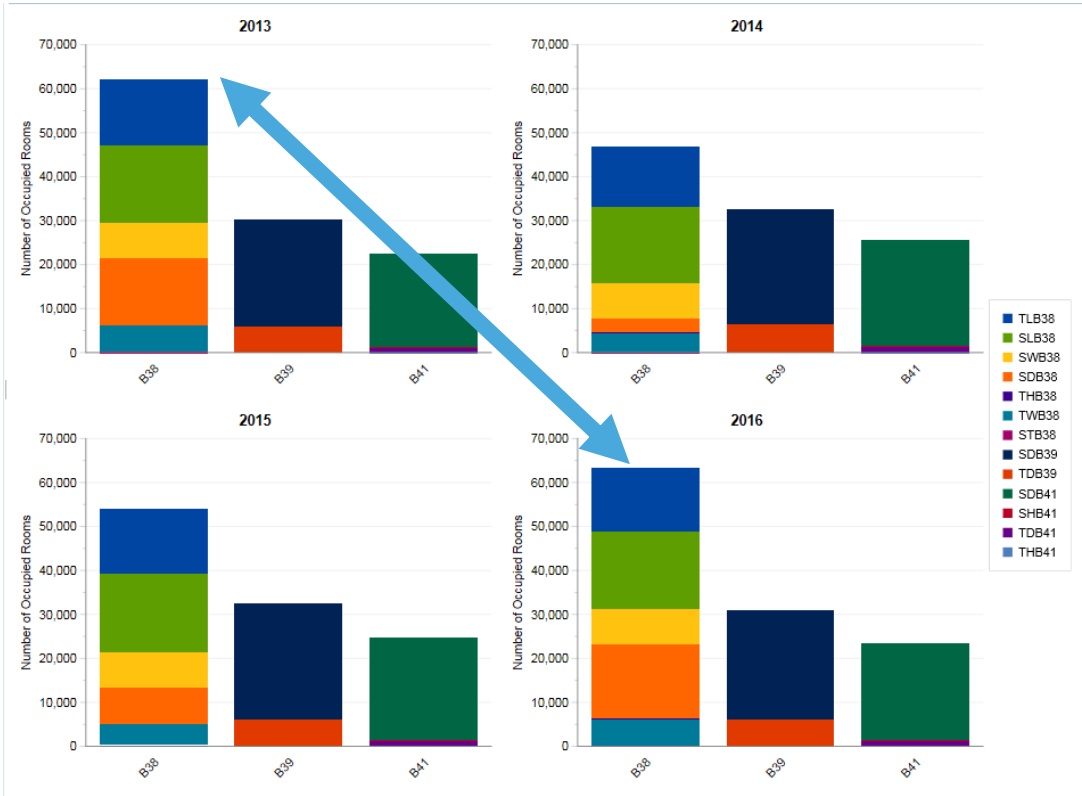
Taux d'occupation net des chambres (%)		
Genève	2013	63.8%
	2014	65.1%
	2015	53.2%
Suisse	2013	51.6%
	2014	52.0%
	2015	41.7%

Source : Office fédéral de la statistique - Statistique de l'hôtellerie



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2013 vs 2016



- Why compare 2013 and 2016
  - Same capacity
    (renovation works took place in 2014 & 2015)
  - No changes in pricing between 2013 and 2016
  - Same service level (client satisfaction in terms of Cleanliness, Service quality, etc..)
  - 2013 ‘pre’ serviceNow; 2016 ‘post’ serviceNow.
  - 2013 lump sum; 2016 activity based billing (largely)

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2013 vs 2016: Money

- Comparing 2013 and 2016
  - Same pricing scheme
    (more revenue = higher occupancy)
  - 2016 generated more income (200k)
  - 2016 cost reduction (550k)
    in spite of increased salary charges of 150k!
  - →
  - **Improved margin with 13.8%!!!!**
  - **How is this possible?**

Revenues Hotel Operation in KCHF	2013	2016
Revenues Building 38	-2'486	-2'743
Revenues Building 39	-1'748	-1'689
Revenues Building 41	-1'254	-1'265
Total Revenues Hotel Operation	**-5'488**	**-5'697**

Amortization in KCHF	2013	2016
Amortization Building 38	179	188
Amortization Building 39	297	271
Amortization Building 41	226	241
Total Amortization	**702**	**700**

Operational Charges in KCHF	2013	2016
12100 Building 38	1'341	1020
12101 Building 39	992	634
12102 Building 41	597	427
12103 Hotels General	153	294
12105 Salaries	183	344
Total Operational Charges	**3'266**	**2'718**

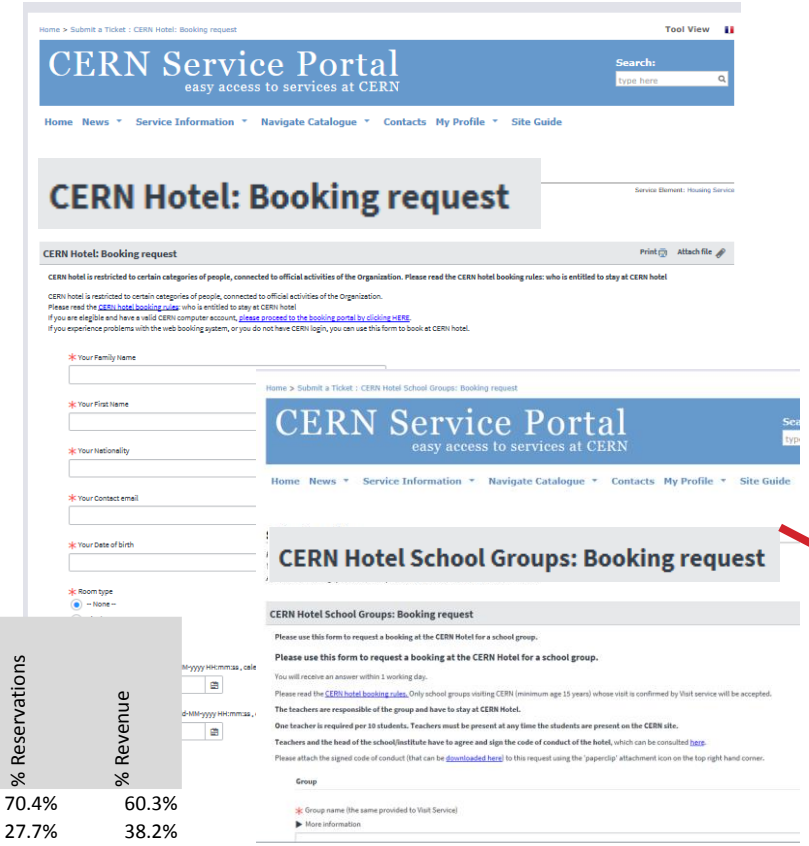
Total Normalized Charges / Building (incl Amortization)	2013	2016
Building 38	1'674	1'521
Building 39	1'403	1'099
Building 41	891	799
Total Normalized Charges	**3'968**	**3'418**

Earnings in KCHF (Revenues-Charges)	2013	2016
Building 38	812	1222
Building 39	345	591
Building 41	363	466
Net Earnings	**1'520**	**2'279**

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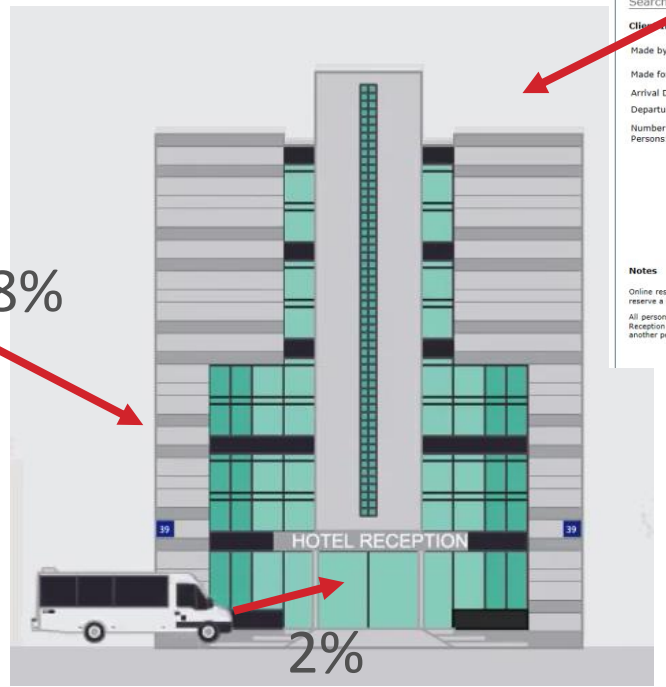
Facts: How does it work; reservations

- Service portal & Walk-in 40% (requires back office work)



	2016			
	# Reservations	$ Revenue	% Reservations	% Revenue
Homepage	33,178	3,438,322	70.4%	60.3%
Service Now	13,073	2,176,533	27.7%	38.2%
Sur place	900	82,715	1.9%	1.5%
Grand Total	**47,151**	**5,697,569**	**100%**	**100%**

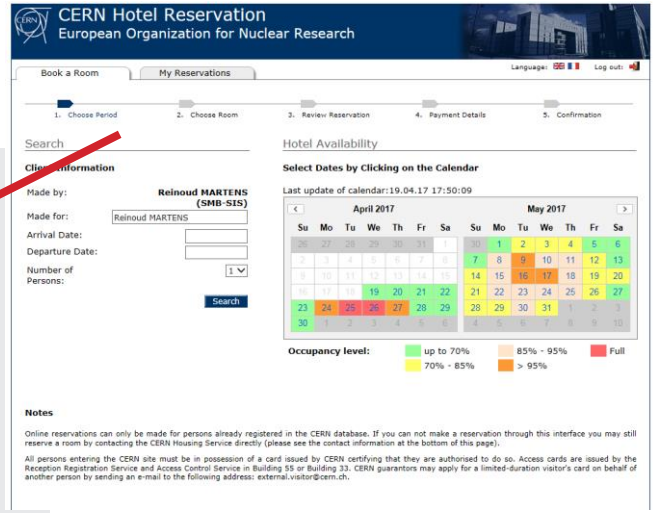
38%



- Self service web portal 60% (no back office effort)

60%

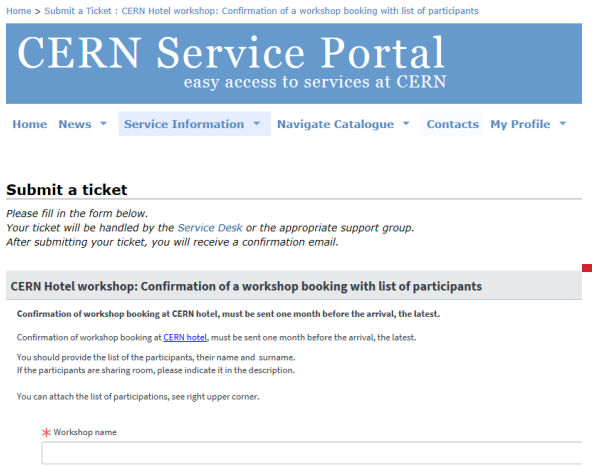




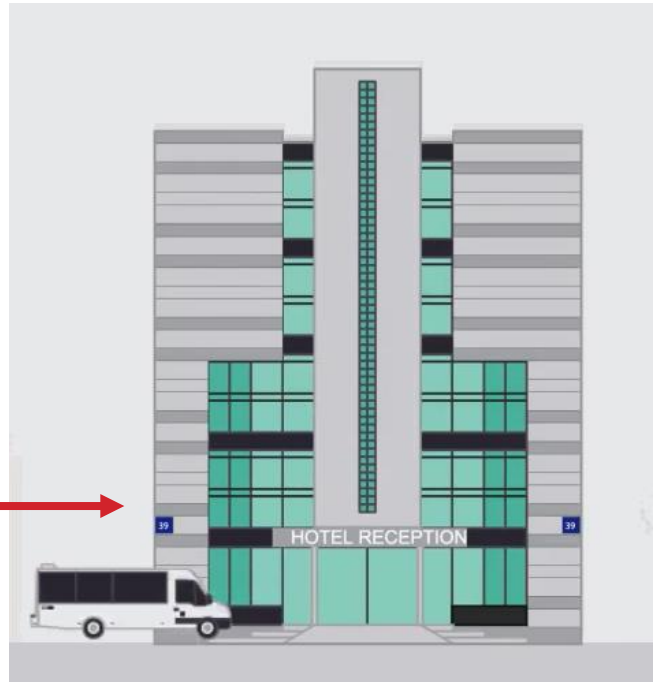
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Facts: How does it work; other actions

- Back office 80% driven by serviceNow for cancelations, changes, confirmations of group bookings, etc.
- Exchanges with clients are done using serviceNow notifications.



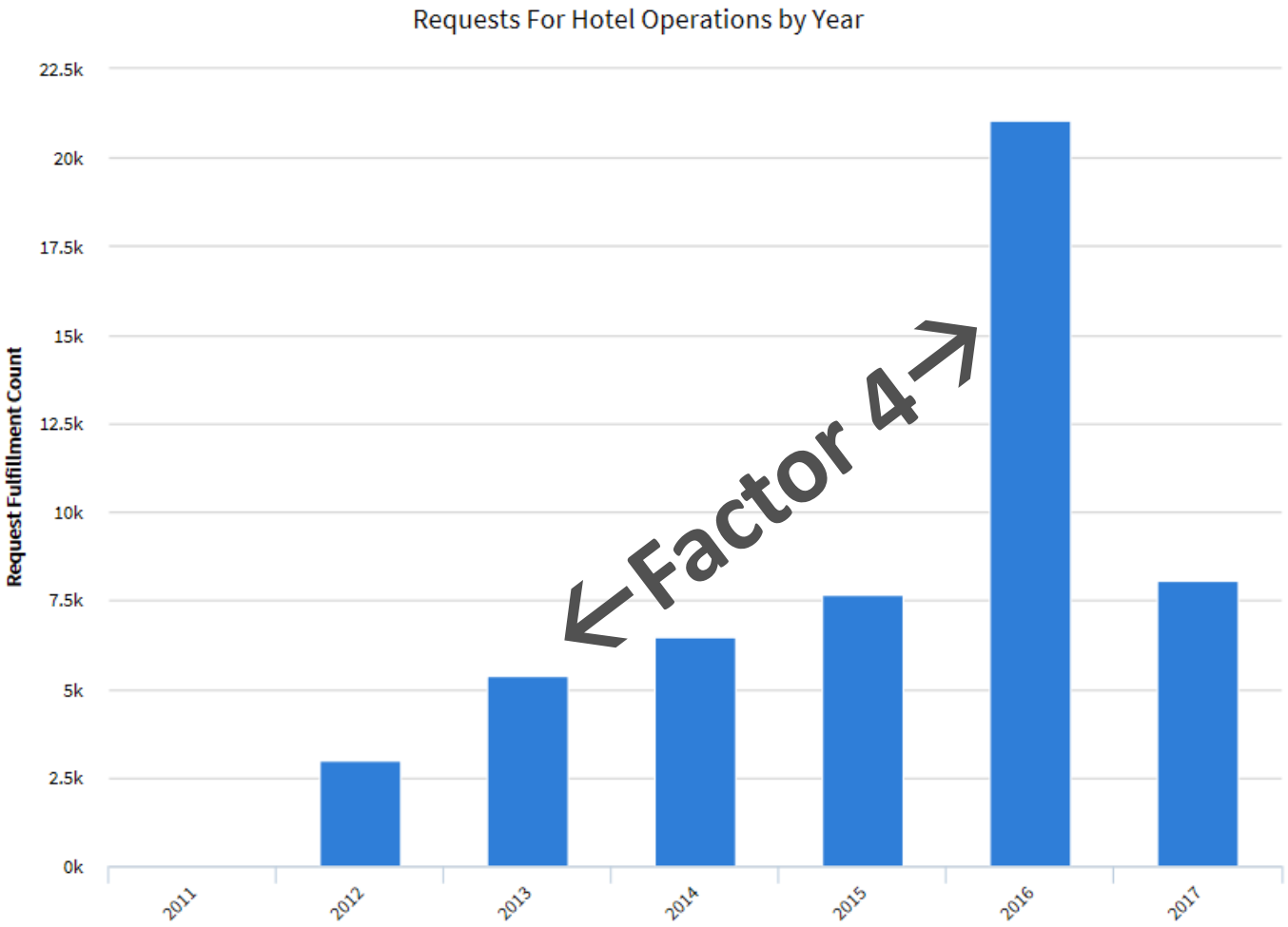
80%



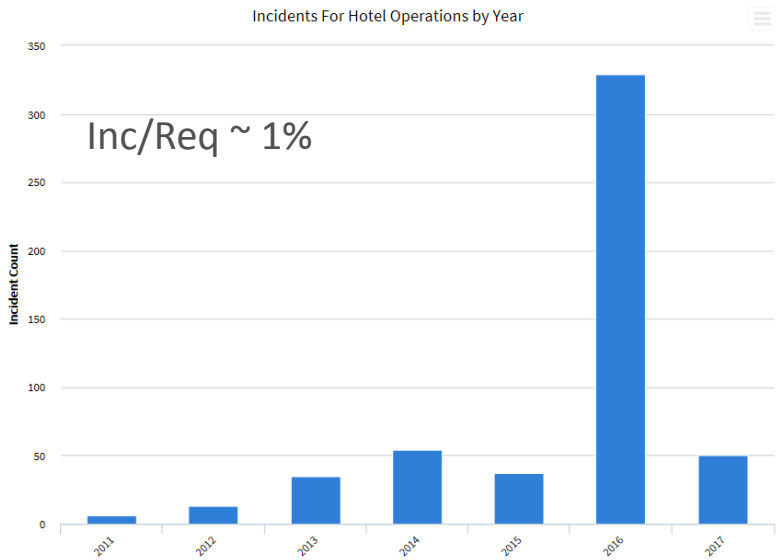
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Facts: How did it work; 2013 vs 2016

In 2013 Hotel operations were largely email driven



	2013		2016	
	# Reservations	Revenue	# Reservations	Revenue
E-Mail	15,075	2,500,925		
Homepage	27,436	2,695,030	33,178	3,438,322
Service Now	8	4,278	13,073	2,176,533
Sur place	1,847	210,506	900	82,715
Téléphone	758	81,032		
Grand Total	**45,124**	**5,491,771**	**47,151**	**5,697,569**



'few' incidents (compared to requests) are mainly 'cleaning' related

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New contract in 2016

- In 2015 we retendered the contract for operating the hotels
- We moved from a ‘lump sum’ to an ‘activity based’ remuneration system
- This implied ability to closely monitor the activity
- Part of necessary information (occupation, billing info, etc..) is obtained from the Hotel management software (Fidelio)
- A lot of operational metrics to monitor SLA’s could not be derived from this system
- ServiceNow filled this gap; the service management system drives:
  - All back office work (all email feeds intercepted and converted)
  - Cleaning inspections and non conformities
  - Satisfaction surveys
  - All incidents and requests reported by hotel guests (or staff)

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2013 vs 2016; conclusion and next steps

- 2013 perception:
  - Good running service (clients happy) generating benefits (management happy).
- 2016 facts:
  - Good running service (clients still happy) generating 13% more benefits (management happier).

- Conclusion:
  - **Metrics** captured in an ESM (Enterprise Service Management system) **can enable significant savings** in operations that are not perceived to be running inefficiently (while they were still email driven).
  - These are savings **that we did not anticipate** when starting our journey
- Next steps: more of the same (transparency and then 'lump sum' → 'activity based')
  - 2017→2018 mobility activity (900 cars, 10 busses, 500 bikes, ….) annual cost ~3Million.
  - 2018→2019 cleaning activity (400'000 m2 of cleanable space) annual cost ~3Million.

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Top Takeaways

1 ESM is RELEVANT beyond IT and it WORKS

2 ROI of ESM initiative not easy (often strategic initiative)

3 ESM can generate significant (unplanned) savings

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Take the Survey

Please take a moment to complete a session survey in the Knowledge17 app.

Thank You

Reinoud Martens

Service Manager

CERN

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