



K. Anthony (University of Udine) on behalf of ATLAS Outreach Team

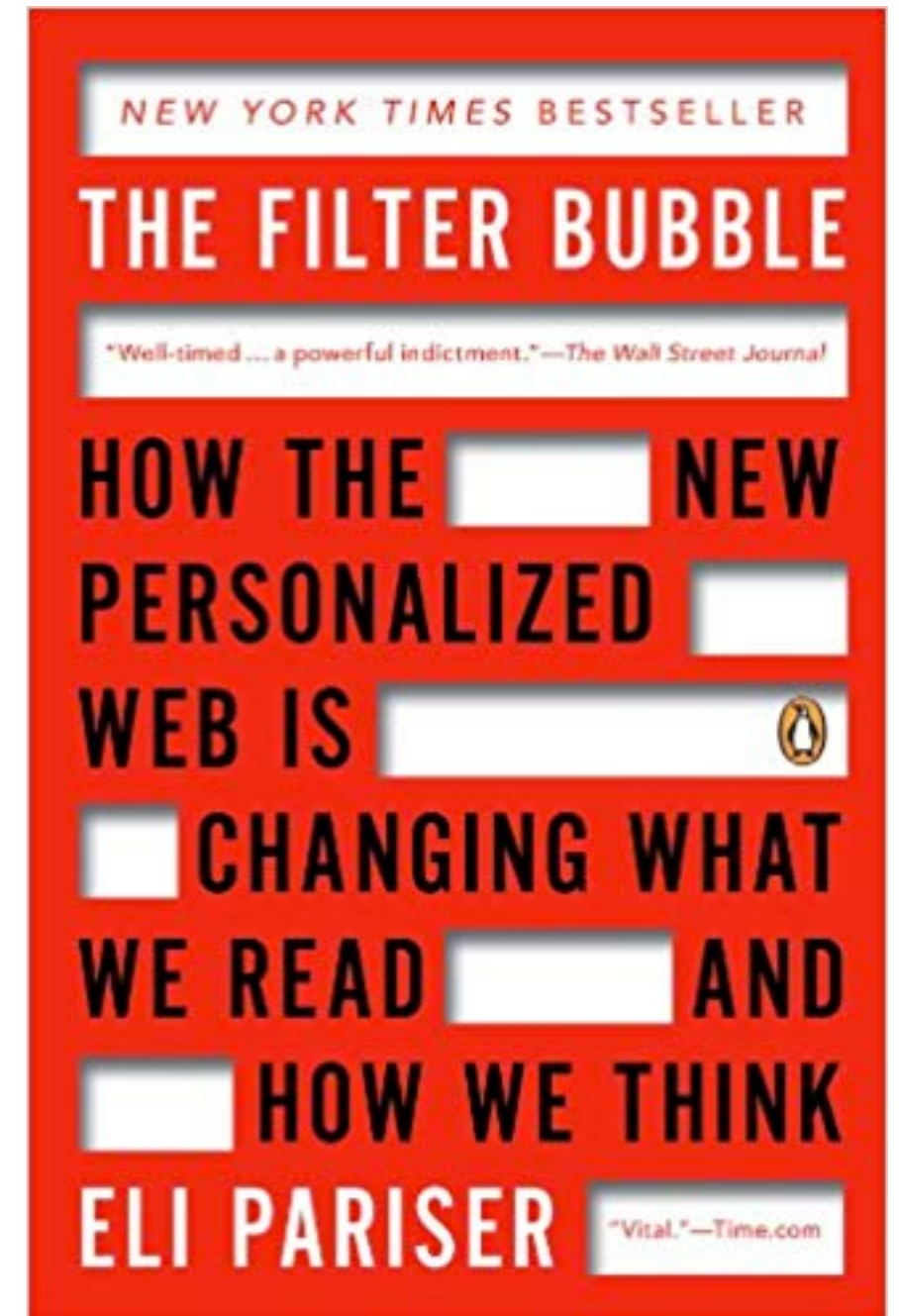
COMMUNICATING ATLAS: ADAPTING TO AN EVER-CHANGING MEDIA LANDSCAPE



K ANTHONY - UNIVERSITY OF UDINE

THE NEED TO ADAPT

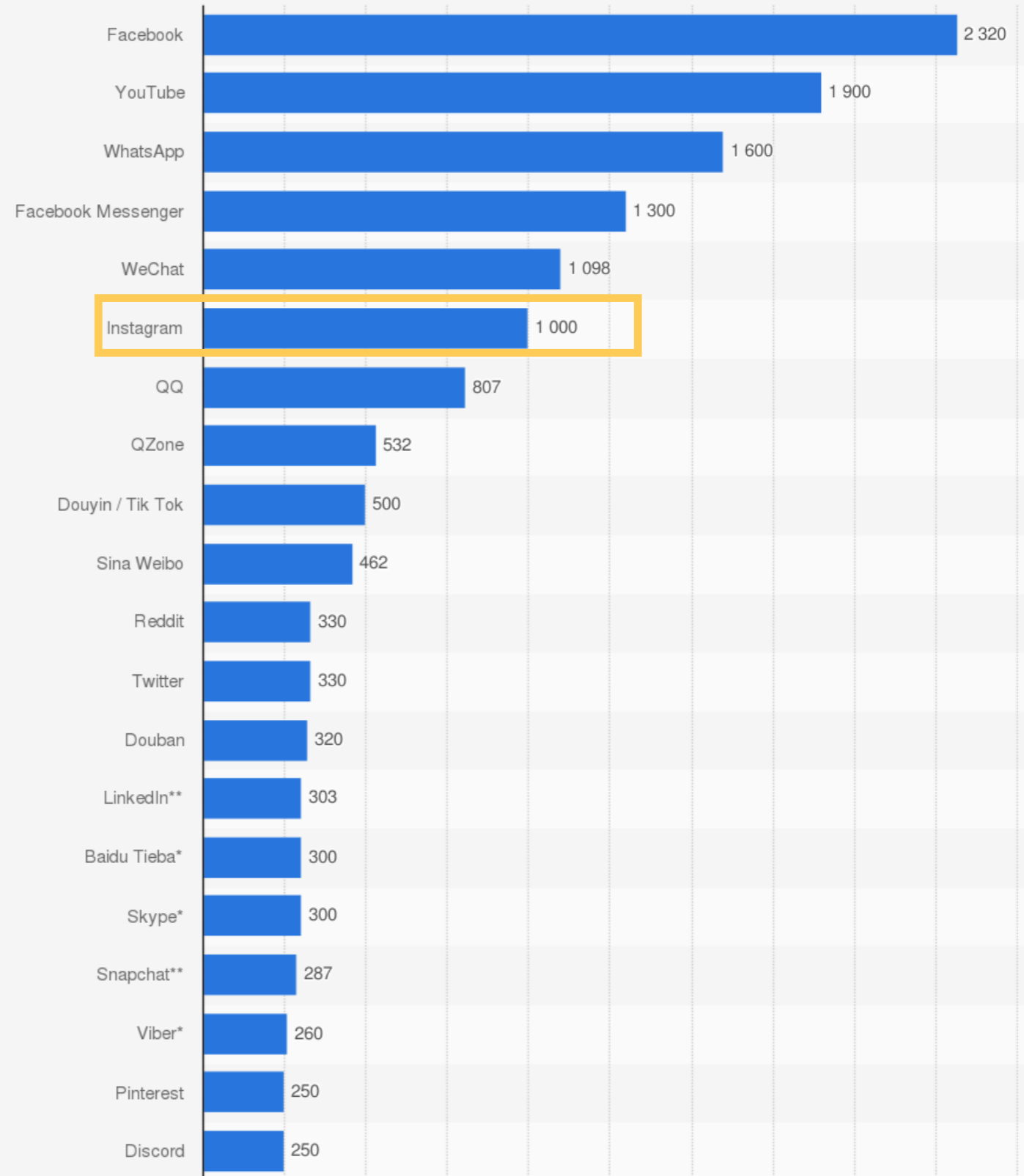
- ▶ An essential component of the long-term success of scientific research is communicating the results and methodology to the wider public.
- ▶ The web and social media are the key platforms to engage publics with the ATLAS collaboration and its results.
- ▶ However, this is a **constantly changing landscape**. Traditional web-content strategies **no longer effective**. Adaptation is key to ensure our message reaches our target audiences.



SOCIAL MEDIA IS HERE TO STAY

- ▶ Of the 4 billion people active global internet users, **3.5 billion** use social media. 2.3 billion of these users are on Facebook. 1 billion on Instagram. (*April 2019, We Are Social/Statista*).
- ▶ These numbers constantly growing - most notably **Instagram**:
 - ▶ Instagram now the most engaged network after Facebook, gained **200 million new users** since 2018 (largest growth of all platforms). (*2018/9, We Are Social/Statista*)
 - ▶ **71%** of its 1 billion monthly active users on Instagram are under the age of 35. (*2019, Statista*)
- ▶ You cannot have a communication strategy without a social media strategy.

Most popular social networks worldwide as of April 2019, ranked by number of active users (in millions)



Number of active users in millions

Sources

We Are Social; Various sources; Hootsuite; DataReportal
© Statista 2019

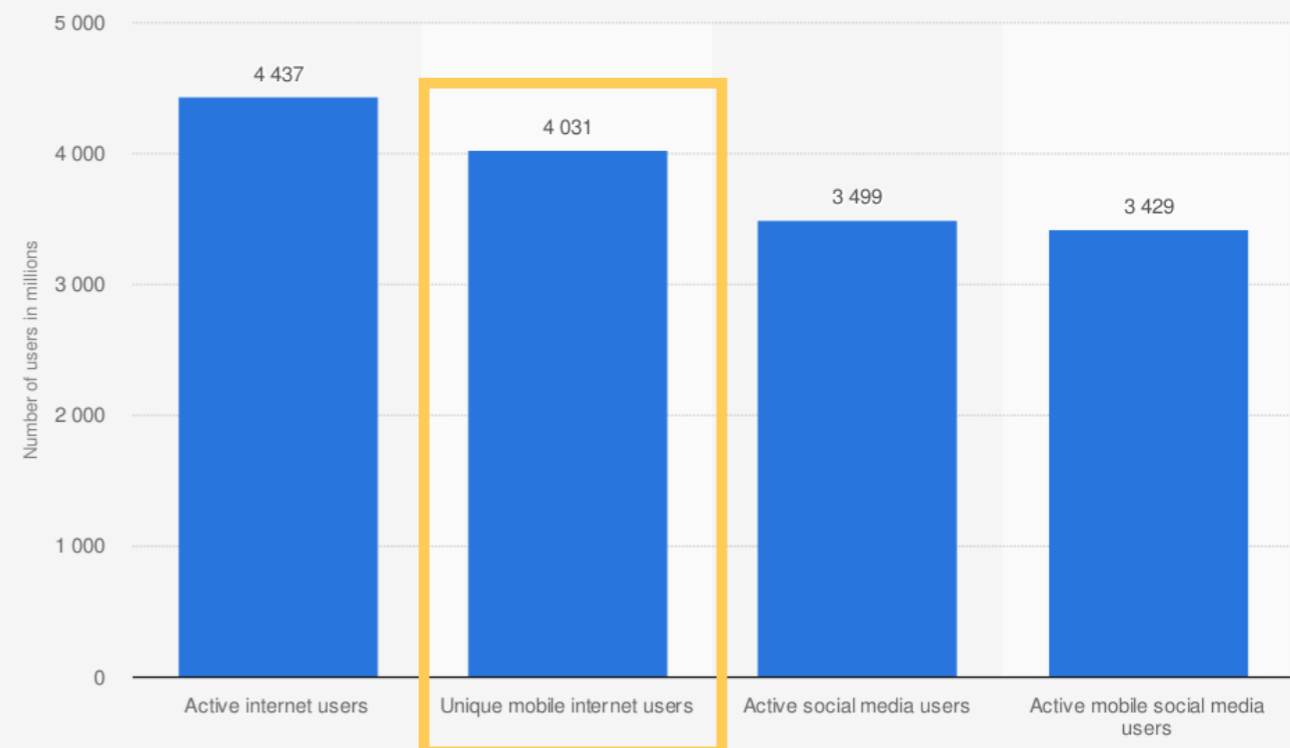
Additional Information:

Worldwide; Various sources; DataReportal; as of April 23, 2019; social networks and messenger/chat app/vo

MOBILE USERS ARE WEB USERS

- ▶ Of the 4.4 billion active internet users, **4 billion** are accessing the internet using their mobile phones.
- ▶ Mobile devices are the **main means** of accessing the internet for global users, since 2017. *(April 2019, We Are Social/ Statista)*
- ▶ The markets where mobile devices have the highest shares of internet use are **geographically diverse**:
 - ▶ mobile web traffic accounts for 60% of Asian consumption, but only 31% of South American consumption *(Feb 2019, StatCounter)*
- ▶ *Mobile phone users can no longer be considered as an afterthought - they are becoming the primary audience.*

Global digital population as of April 2019 (in millions)



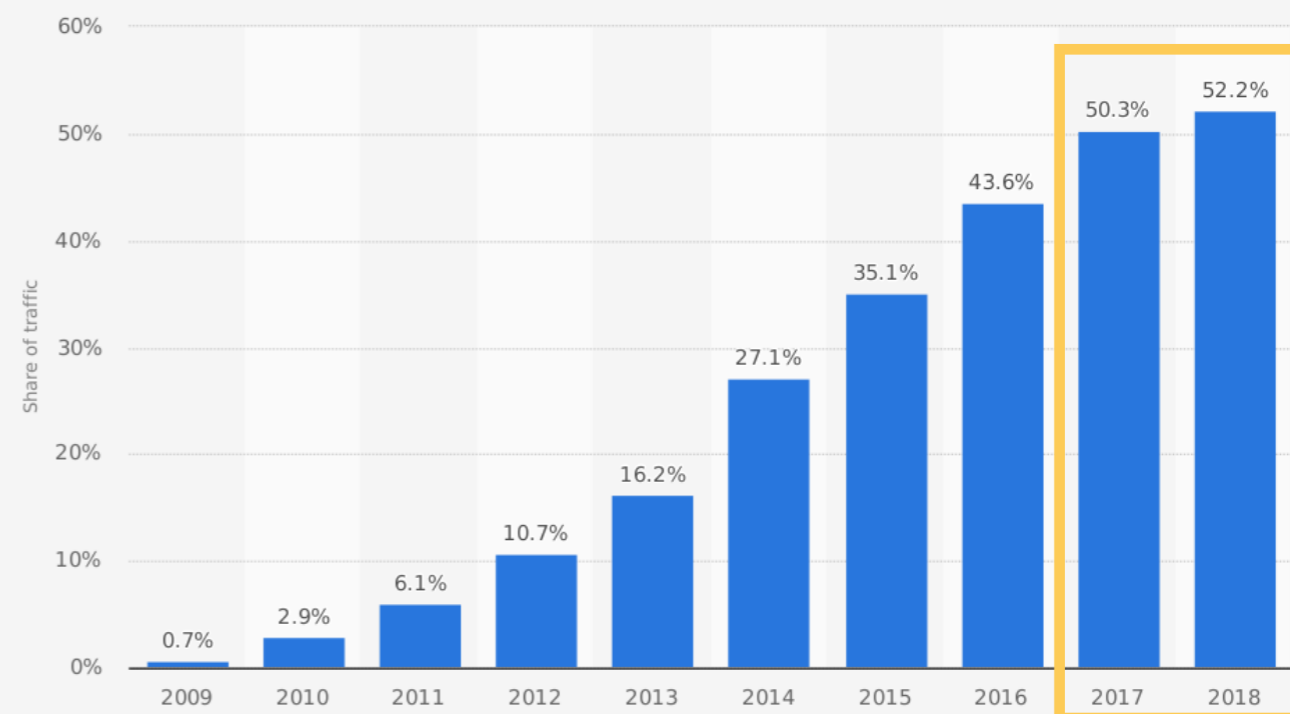
Sources

We Are Social; DataReportal; Hootsuite
© Statista 2019

Additional Information:

Worldwide; DataReportal; April 2019

Percentage of all global web pages served to mobile phones from 2009 to 2018



Sources

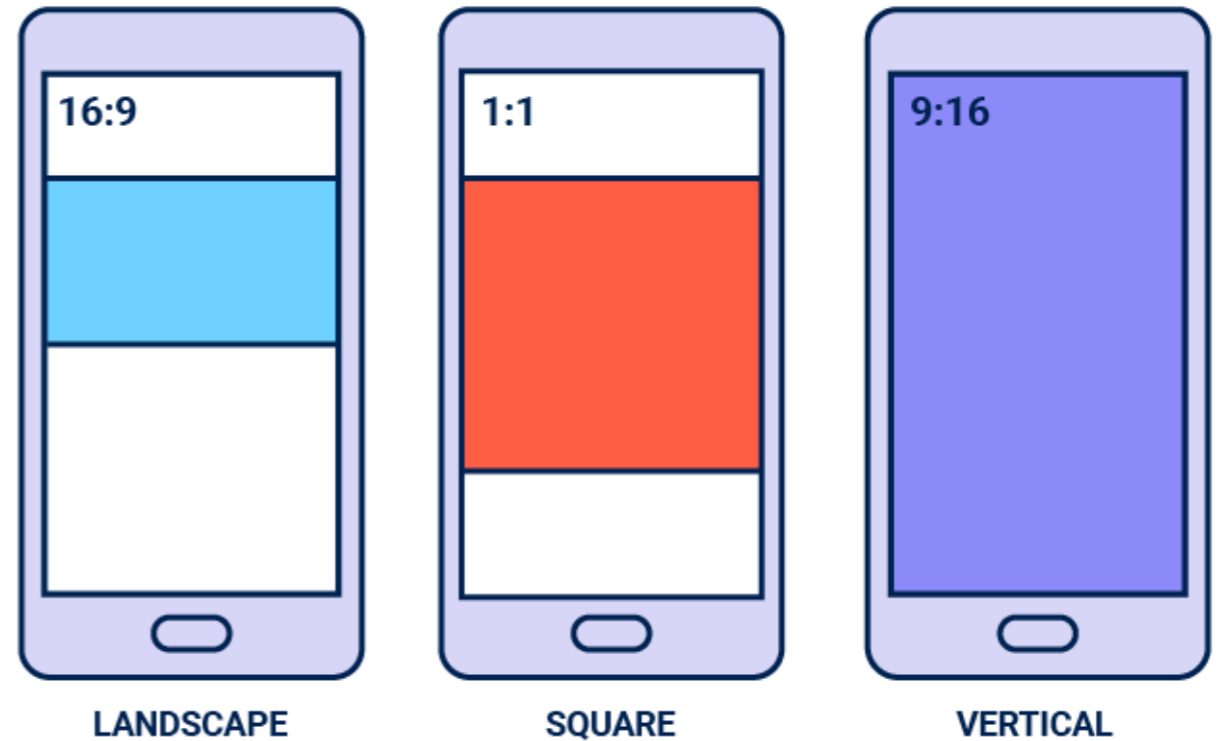
We Are Social; StatCounter
© Statista 2019

Additional Information:

Worldwide; StatCounter; 2009 to 2018

THE SOCIAL CONTENT LANDSCAPE

- ▶ Content is being tailored to mobile users (with low attention spans):
 - ▶ Video consumption on mobile has increased **233%** since 2013, and more than half of video views take place on mobile
 - ▶ 1:1 ratio videos and vertical videos are now the standard, as they take up **more real estate** in the News Feed on mobile devices
 - ▶ Content producers are **staying on the platform**, lowering the threshold for engagement by removing the need to click-through
- ▶ Easy access to users has led to overwhelming free content, with brands **competing for views and clicks.**



Social content: Keeps users on the platform, grabs their attention quickly and **caters to the algorithm.**

ADAPTING THE CLICK CULTURE TO HEP

How can collaboration-led science communication adapt without losing the integrity of their messages?

ATLAS PUBLIC CONTENT

- ▶ **ATLAS public website** remains the primary source for public content, with a mix of evergreen content and regular updates:
 - ▶ **News Articles & Press Statements:** broad, non-expert audience with coverage driven by events.
 - ▶ **Physics Briefings:** results-driven coverage with higher-level, but still non-expert audience.
 - ▶ **Features:** long-form feature articles on key physics subjects aimed at a broad, non-expert audience but with educational angle.
 - ▶ **Portraits:** a series of interviews presenting collaborators whose contributions have helped shape the ATLAS experiment.
 - ▶ **Blog posts:** written by members of the collaboration, giving personal perspectives on ATLAS.
- ▶ **ATLAS Social Media channels:**
 - ▶ **Facebook** (29k), **Twitter** (87.5k), **Instagram** (12.9k)

The image shows two overlapping screenshots of the ATLAS public website. The top screenshot displays a 'Physics Briefing' titled 'Double the Higgs for double the difficulty' with a plot of $N_{\text{sig}}/(\sigma_{\text{sig}} \times \text{BR}(H \rightarrow \text{bb}))$ vs C_{HH} . The bottom screenshot shows a 'Press Statement' titled 'ATLAS observes elusive Higgs boson decay to a pair of bottom quarks' with a candidate event display showing a Higgs boson decaying into two b-quarks (blue cones) and a W boson decaying into a muon (red) and a neutrino (reconstructed through the missing transverse energy, dashed line).

Access to [Collaboration Site](#) and [Physics Results](#) Search ATLAS

ATLAS

Discover
About, Physics, Collaboration, Detector

Resources
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Updates
News, Briefings, Features, Portraits, Press statements, Blog

Updates
Latest [News](#), [Physics Briefings](#), [Press Statements](#), [Feature Articles](#), [Collaboration Portraits](#) and [Blog Entries](#) from ATLAS

Physics Briefing
Double the Higgs for double the difficulty

11th July 2019 – A key interaction not yet observed by LHC experiments is the production of “double Higgs”. The Standard Model predicts that the Higgs field can interact with itself to create a Higgs boson pair. The rate with which this happens is critical, as it allows physicists to directly probe the potential energy of the Higgs field, which is responsible for mass of particles. Deviations from the expectation would be a strong hint of new physics.

Recent Tweets
ATLAS Experiment @ATLASexperiment
[Physics Briefing] Double the Higgs for double the difficulty: the ATLAS collaboration at CERN studies – for the first time – the rare process where two vector bosons fuse to form a pair of Higgs bosons. #EPShEP2019
Find out more: cern.ch/go/sH9

Read more →

Physics Briefing
ATLAS searches for Higgs boson decays into muons

11th July 2019 – Today, at the High Energy Physics (HEP) meeting on High-Energy Physics (EPS) Collaboration released a new search for Higgs boson decays to a muon and a neutrino. This is the most sensitive result uses the data collected so far, which is twice as many Higgs boson events as the previous search.

Read more →

Physics Briefing
ATLAS finds evidence for Higgs boson decaying into two muons

Access to [Collaboration Site](#) and [Physics Results](#) Search ATLAS

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Latest [News](#), [Physics Briefings](#), [Press Statements](#), [Feature Articles](#), [Collaboration Portraits](#) and [Blog Entries](#) from ATLAS

Press Statement
ATLAS observes elusive Higgs boson decay to a pair of bottom quarks

Tags: [Physics Results](#), [Higgs boson](#)

By ATLAS Collaboration, 28th August 2018

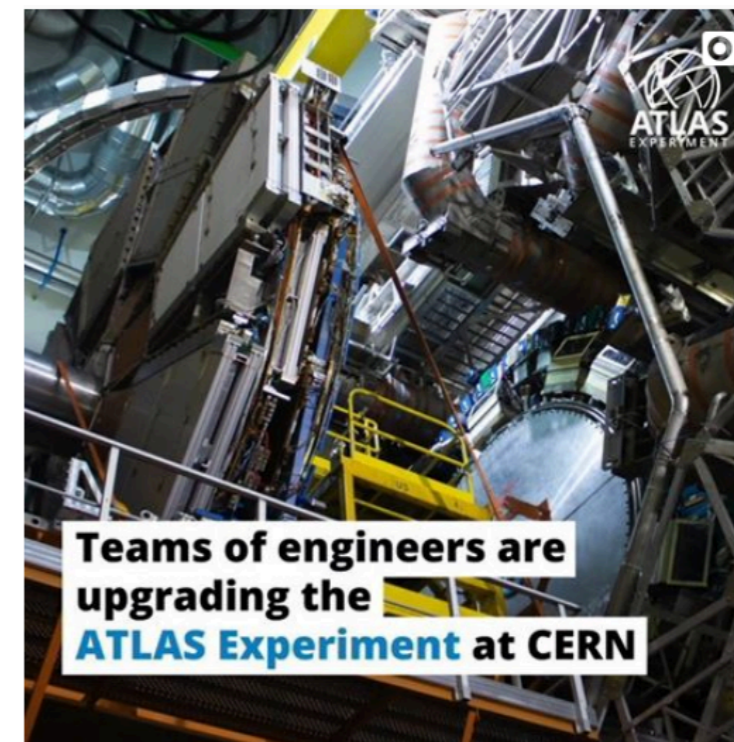
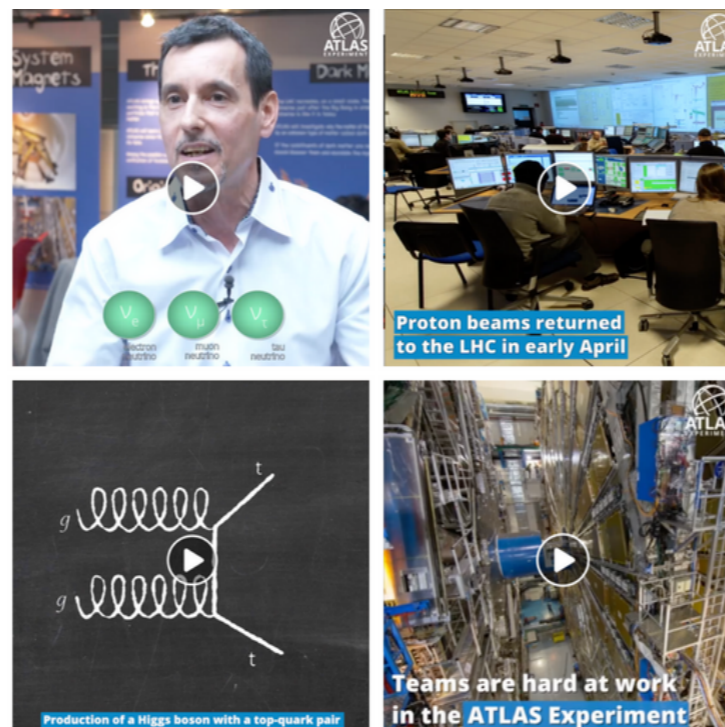
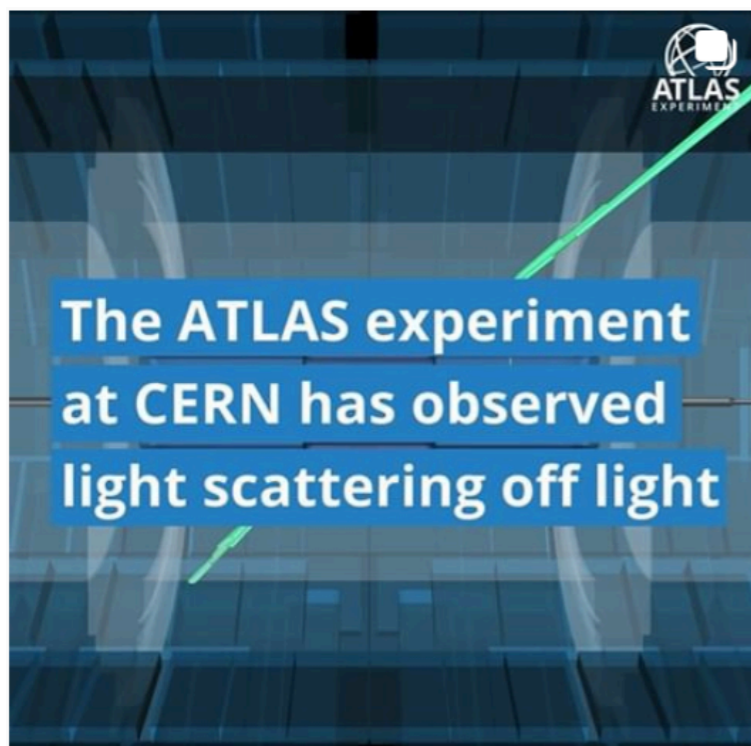
ATLAS EXPERIMENT
Candidate Event:
 $pp \rightarrow H(\rightarrow \text{bb}) + W(\rightarrow \mu\nu)$
Run: 338712, Event: 335908183
2017-10-19 23:31:18 CEST

A candidate event display for the production of a Higgs boson decaying to two b-quarks (blue cones), in association with a W boson decaying to a muon (red) and a neutrino. The neutrino leaves the detector unseen, and is reconstructed through the missing transverse energy (dashed line). (Image: ATLAS Collaboration/CERN)

Geneva, 28 August 2018. The ATLAS Collaboration at CERN's Large Hadron Collider (LHC) has – at long last – observed the Higgs boson decaying into a pair of bottom (b) quarks. This elusive interaction is predicted to make up almost 60% of the Higgs boson decays and is thus primarily responsible for the Higgs natural width. Yet it took over six years after the 2012 discovery of the Higgs boson to accomplish this observation.

“ATLAS is proud to announce the observation of this important and challenging Higgs boson decay,” says Karl Jakobs, ATLAS Spokesperson. “While the result is certainly a confirmation of the Standard Model, it is equally a triumph for our analysis teams. During the early preparations of the LHC, there were doubts on whether this observation could be achieved. Our success is thanks to the excellent performance of the LHC and the ATLAS detector, and the application of highly sophisticated analysis techniques to our large dataset.”



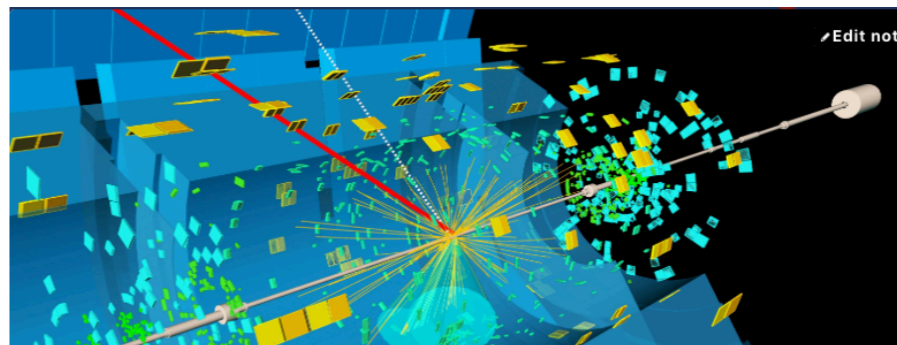


CREATING SOCIAL CONTENT

- ▶ Since 2018, ATLAS Outreach has adopted strategy of creating social-media-specific content, released in conjunction with traditional communications.
- ▶ For both the Hbb and ttH Press statements, released short (1-3 minute) explainer videos to share results in **social media friendly** format.
- ▶ Content is concise with featured text to facilitate the viewing experience. (Full captions planned for future videos)
- ▶ Using clean, simple **animations** and animated plots to visualise the content.
- ▶ **Aspect ratio** of social media videos adapted, using 1:1 on Facebook/Instagram posts, and portrait in Instagram stories.

SPREADING ATLAS CONTENT TO MULTIPLE OUTLETS

- ▶ **Phys.org:** Physics Briefings published directly on the Phys.org news website, which has a large established user base.
 - ▶ Impact: Phys.org accounts for $\pm 70\%$ of all views of ATLAS Physics Briefings.
- ▶ **Facebook Notes:** Physics Briefings and Press Releases directly on the social media platform - of particular value for mobile users who remain on the application.
 - ▶ Impact: increased read-rate from Facebook by $\pm 250\%$.
- ▶ **Google News:** see backup



Press Statement: ATLAS observes elusive Higgs boson decay to a pair of bottom quarks

ATLAS EXPERIMENT AT CERN · TUESDAY, 28 AUGUST 2018
554 reads

Geneva, 28 August 2018. The ATLAS Collaboration at CERN's Large Hadron Collider (LHC) has – at long last – observed the Higgs boson decaying into a pair of bottom (b) quarks. This elusive interaction is predicted to make up almost 60% of the Higgs boson decays and is thus primarily responsible for the Higgs natural width. Yet it took over six years after the 2012 discovery of the Higgs boson to

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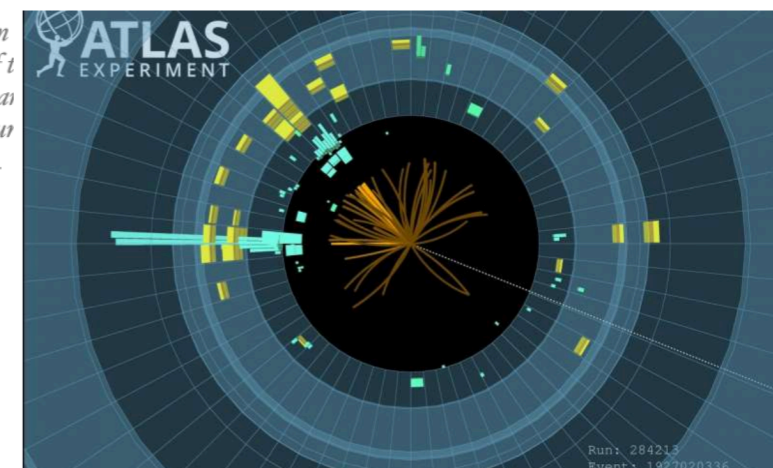
PHYS.ORG Nanotechnology Physics Earth Astronomy & Space Technology



Home » Physics » General Physics » July 10, 2018

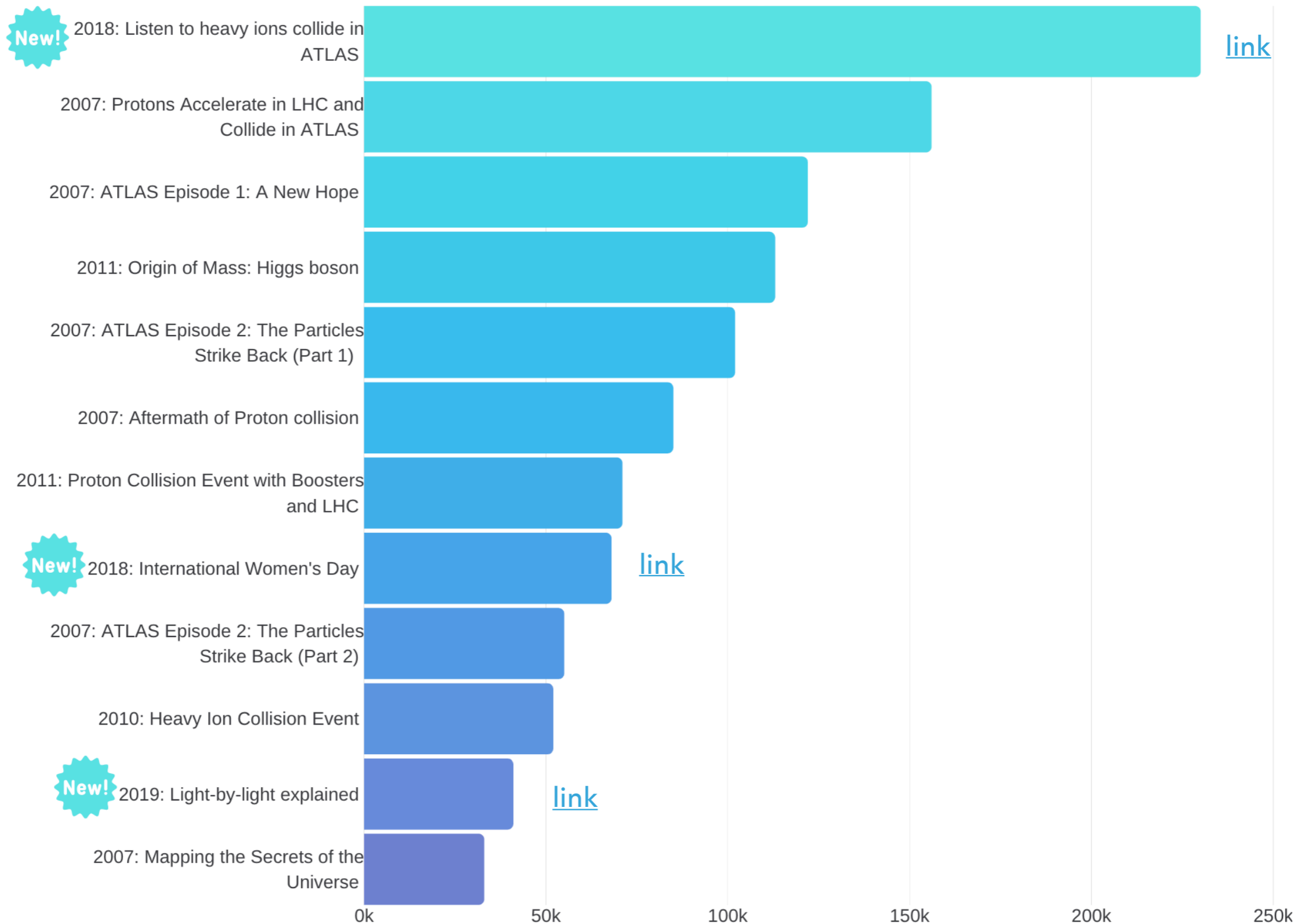
Higgs boson observed decaying to b quarks

July 10, 2018, ATLAS Experiment



Event display for the $H \rightarrow b\bar{b}$ decay analysis with the ATLAS detector. Credit: ATLAS Collaboration/CERN

On 9 July, at the 2018 International Conference on High Energy Physics (ICHEP) in Seoul (South Korea), the ATLAS experiment reported a preliminary result establishing the observation of the Higgs boson decaying into pairs of b quarks, furthermore at a rate consistent with the Standard Model prediction.



SUCCESS OF SOCIAL VIDEO CONTENT



EXAMPLE CONTENT: LISTEN TO HEAVY IONS COLLIDE

ATLAS Experiment at CERN
Published by ATLAS Experiment at CERN [?] · November 22, 2018 ·

Listen to heavy ions collide in the LHC! Data from the ATLAS detector has been transformed into a symphony of sounds via Quantizer, a MIT Media Lab sonification platform.

Quantizer takes data from an ATLAS collision event, scales and shifts it to ensure the output is in the audible frequency range, and then maps it to different musical scales. From there, a midi stream triggers sound samples according to the geometry and energy of the event properties. Composers have flexibi... [See More](#)

Listen to heavy ions collide
Listen to ATLAS Heavy Ion Collisions
in the ATLAS detector
01:07

Get More Likes, Comments and Shares
Boost this post for €27 to reach up to 7,300 people.

601,575 People Reached **96,448** Engagements [Boost Post](#)

1.5K Reactions 180 Comments 3,529 Shares

Like Comment Share

Performance for Your Post

601,575 People Reached

179,647 3-Second Video Views

17,059 Reactions, Comments & Shares

8,639 Like	1,160 On Post	7,479 On Shares
1,505 Love	272 On Post	1,233 On Shares
107 Haha	13 On Post	94 On Shares
1,320 Wow	185 On Post	1,135 On Shares
8 Sad	0 On Post	8 On Shares
5 Angry	1 On Post	4 On Shares
1,973 Comments	229 On Post	1,744 On Shares
3,529 Shares	3,529 On Post	0 On Shares

79,425 Post Clicks

15,638 Clicks to Play	552 Link Clicks	63,235 Other Clicks
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NEGATIVE FEEDBACK

83 Hide Post **11** Hide All Posts
0 Report as Spam **1** Unlike Page

Reported stats may be delayed from what appears on posts

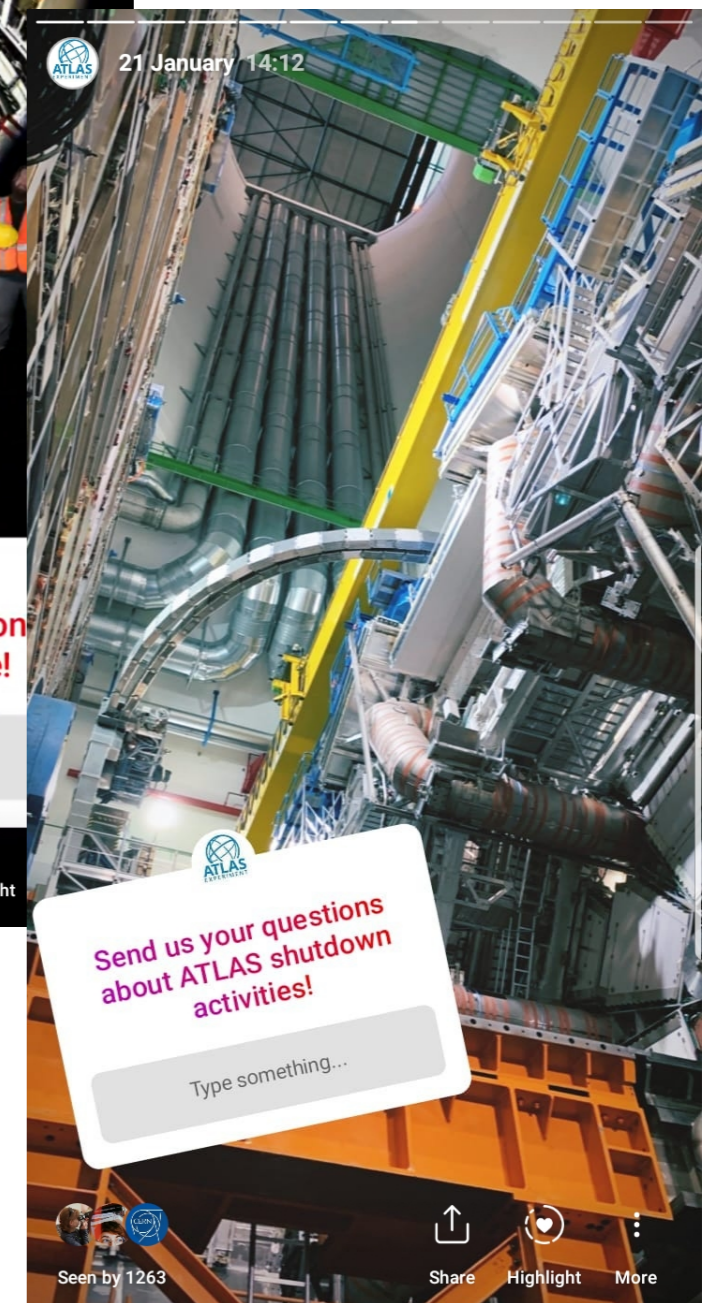
Best performing video content since 2011
2018 video "Listen to Heavy Ions collide in ATLAS" gained 230k views across 3 social media platforms



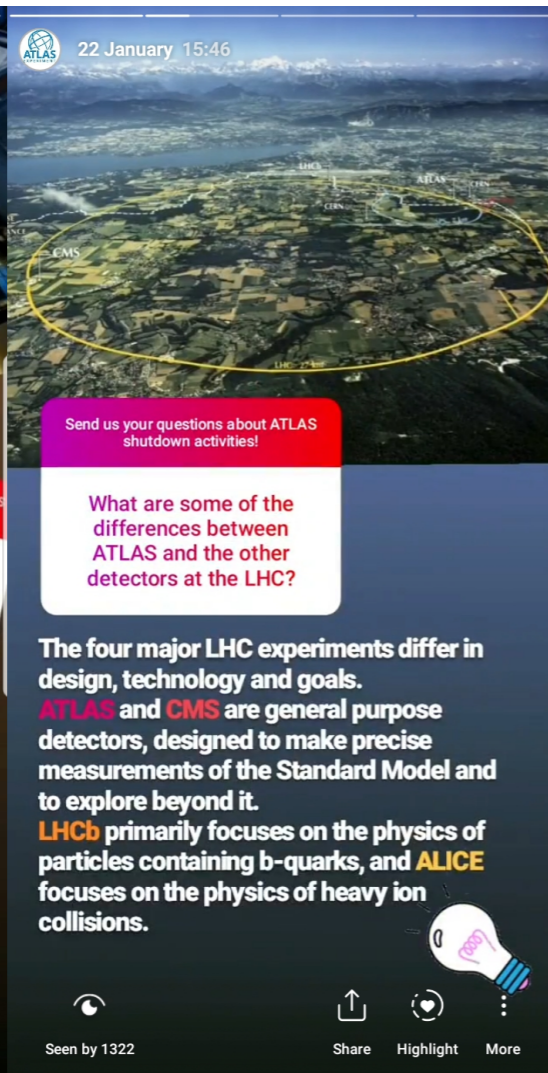
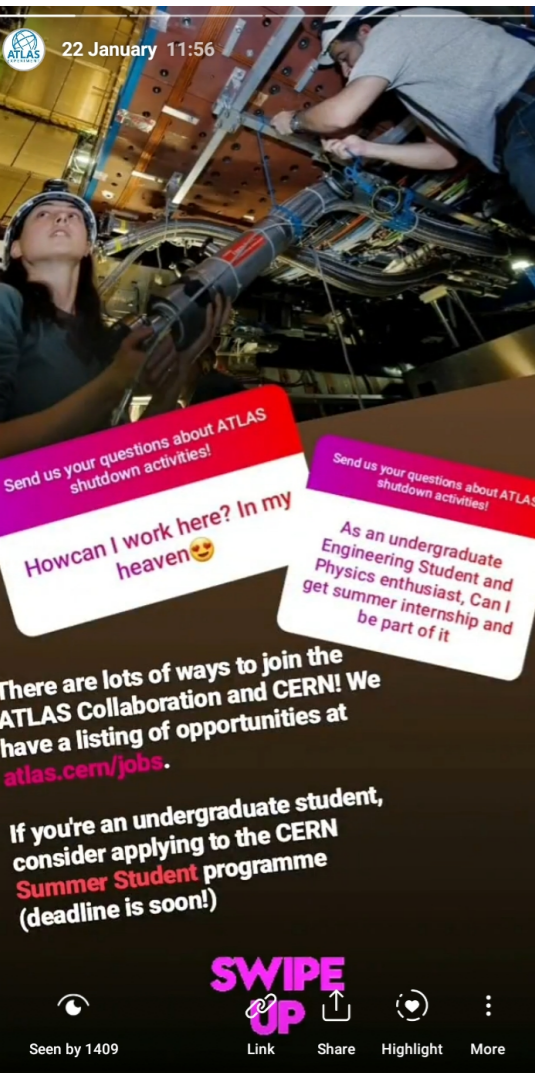
NEW SOCIAL ENGAGEMENT STRATEGIES

New to 2019: use of [Instagram](#) stories & live for “Ask Me Anything” (AMA) engagement

- ▶ **What are AMAs?** AMAs are common & popular practice on business/politician/influencer Instagram accounts allowing for direct engagement with audience.
- ▶ **Strategy?** “Open asks” in an Instagram story, allowing users to send their questions directly to our account. We then pick the most relevant/interesting questions to answer, posting the reply publicly.
- ▶ **Advantages?** As questions are not public, audience tends to be more open & willing to engage!
- ▶ **Impact:** Significant improvement on engagement compared to other platforms - i.e. 550% increase in number of questions on last Instagram AMA from last ATLAS-hosted FB live
- ▶ **Very interesting insight into our audience!**



A FEW EXAMPLES!



"Highlighted" answers are pinned to top of IG page



SUMMARY

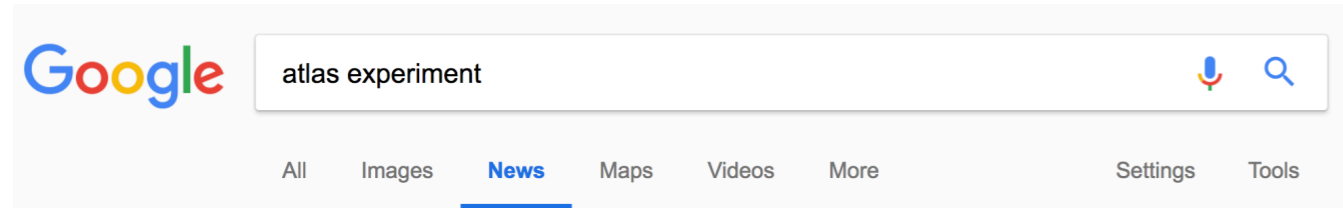
- ▶ **ATLAS Communications has adopted a strategy of constant adaptation.**
- ▶ New social content strategy has proved very effective so far.
- ▶ Remain open to new styles of social content (Instagram live) and new ways to engage with audiences (AMAs)
- ▶ Continue to create Social Media videos and publish Facebook notes, in addition to our in-depth videos and website link sharing.

ANY QUESTIONS?

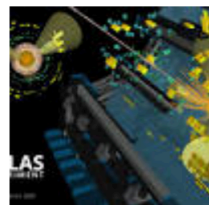
Contact: atlas-outreach-coordination@cern.ch



BACKUP: ATLAS IN GOOGLE NEWS



- ▶ Since mid-2017, ATLAS News, Briefings and Press statements appear on Google News.



ATLAS starts new year of data-taking

ATLAS Experiment at CERN - 30 Apr 2018

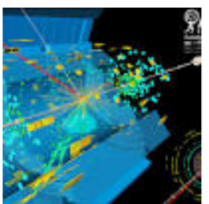
On 28 April, the **ATLAS Experiment** began recording the first of its kind in 2018. This will be the final year of Run 2 operation of the Large



ATLAS Around the World: the faces behind the physics

ATLAS Experiment at CERN - 10 Aug 2018

He is currently analysing data for the **ATLAS experiment**, searching for events which may create two Higgs bosons, to gain insight into



ATLAS observes elusive Higgs boson decay to a pair of

ATLAS Experiment at CERN - 28 Aug 2018

Geneva, 28 August 2018. The **ATLAS Collaboration** at CERN's Collider (LHC) has – at long last – observed the Higgs boson ...

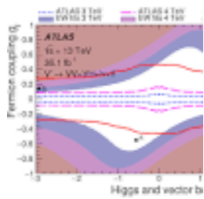
LHC scientists detect Higgs bosons decaying into bottom quarks
Highly Cited - UC Santa Cruz (press release) - 28 Aug 2018

[View all](#)

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7. [m.facebook.com](#)
8. [login.cern.ch](#)
9. [go.web.cern.ch](#)
10. [googleapis.com](#)

- ▶ This has allowed us to ensure that official voice is “heard” among multiple-outlet coverage of a story
- ▶ Google News referrals are the **3rd** largest drivers of traffic to the ATLAS website in 2018



Stronger together: combining searches for new heavy resonances

ATLAS Experiment at CERN - 14 Aug 2018

The search for “new physics” is therefore an important component of the **experimental** programme, where a number of analyses are ...

