AIS Politics: The Contested Use of Vessel Tracking at the EU's Maritime Frontier

Lorenzo Pezzani and Charles Heller

Abstract: Automatic Identification System (AIS) is a vessel tracking system, which since 2004 has become a global tool for the detection and analysis of sea-going traffic. In this article, we look at how this technology, initially designed as a collision avoidance system, has recently become involved in debates concerning migration across the Mediterranean Sea. In particular, after having briefly discussed its emergence and characteristics, we examine how through different practices of (re-)appropriation AIS, and the data it generates, have been seized upon, both to *contest* and to *sustain* the exclusionary nature of borders, and the mass dying of migrants at sea to which it leads. We do so by referring to forms of data activism we have contributed to in the frame of our Forensic Oceanography project, as well as to situations in which AIS has been mobilized by xenophobic groups to demand even stronger exclusionary measures. At the same time, we point to the multiplicity of actors who participate in the politics of migration through AIS in unexpected ways. We conclude by highlighting the irreducible ambivalence of practices of appropriation and call for persistent attention to one's own positioning within the global datascape constituted by AIS and other data.

Keywords: techno-politics, vessel tracking, border regime, politics of aesthetics, data activism, sensing practices

[FIGURE 1]

[FIGURE 1 CAPTION: Video monitoring the activities of Search and Rescue non-governmental organizations through AIS vessel tracking data, GEFIRA, 5 December 2016. https://gefira.org/en/2016/12/04/ngos-are-smuggling-immigrants-into-europe-on-an-industrial-scale/]

Sometime around mid-November 2016, a strange video appeared on Youtube, purporting to reveal an hitherto hidden "truth" about the so-called migration crisis in Europe. For anyone who had been following closely cross-Mediterranean migration over the previous years, the map that appeared in the video covering more than half of the background looked familiar. It encompassed the coast of Libya in the lower section, all the way up to include the whole of Sicily in the top part. This is an area crossed by what the EU border agency Frontex refers to as the "Central Mediterranean Route," a stretch of sea across that more than 30,000 migrant deaths have been recorded in nearly 30 years, making this the deadliest migrant crossing in the world.[1] Yet the accelerated pace of the video, together with the elegiac piano soundtrack, made for a rather uncanny and disturbing watch: ships appearing as little triangles on the map, later revealed to be non-governmental rescue vessels, frantically ran up and down across the two sides of the Mediterranean in what at first sight might have looked like a busy shipping lane. A caption appearing on the right hand side of the screen made explicit the video's political message. "For two months," the text explained, "using marinetraffic.com, we have monitored movements of ships owned by NGOs (non-governmental organizations), and have kept track of the arrivals of African immigrants. It turned out we were witness to a huge scam and illegal human traffic operation. NGOs, smugglers, the mafia in collusion with governments, under the pretext of rescuing people, have shipped thousands of illegals into Europe." Interestingly enough, the particular evidence put forward to "demonstrate" this alleged scam didn't come from direct observation or from statistical data collected by Italian authorities and international organizations, but from one of the many commercial providers of

Automatic Identification System (AIS) data routinely used to track sea-going vessels and avoid collisions. Based on a tendentious interpretation of the movement of vessels recorded by AIS data, the voiceover weaved a narrative of suspicion and collusion.

The video was published by Gefira, a Dutch think-tank that for several years has embraced explicitly xenophobic positions (Bagnoli 2017). It quickly went viral, spearheading a virulent smear campaign against NGOs operating rescue at sea and thus offering a striking example of the contested role vessel tracking technologies have come to play in the politics of migration. NGOs had taken to the sea in the attempt to close the lethal rescue gap left by the EU and its member states after the termination of the Italian Navy operation Mare Nostrum in autumn 2014. While they have successfully demonstrated their life-saving role by making the crossing less dangerous, they have subsequently been accused of colluding with smugglers and encouraging migrants to attempt the perilous sea crossing, thus endangering their lives. The use of vessel tracking data became almost a staple in the ensuing heated debates about the role of NGOs: other videos based on the same data were published,[2] and a commission by the Italian Senate released a report on the subject that disturbingly resembled Gefira's video in its use of AIS.

[FIGURE 2]

[FIGURE 2 CAPTION: AIS tracks of NGO ships contained in the final document produced by the Defense commission of the Italian Senate, published on 16 May 2017.]

Of interest to us here is how a relatively obscure remote sensing technology initially designed as a collision avoidance system has, in the past few years, not only provided crucial information that has fuelled the heated debate surrounding the politics of migration across the Mediterranean, but has also become a point of contention in and of itself. More precisely, as activists and practitioners who have ourselves often used this data for several years in our quest to document and contest the violence of the European border regime, we are interested

in understanding how this technology has been seized upon to *contest* and to *sustain* (but also, as we will show, to avoid confronting) that very violence. We use here the notion of the "border regime," which has become quite ubiquitous in critical migration and border studies, to signal how contemporary borders "include a multitude of actors whose practices relate to each other but are not ordered in the form of a central logic or rationality; rather, [it] implies a space of negotiating practices" (Tsianos and Karakayali 2010) that resists a simply binary opposition between pro- and anti-migrant actors and tools. The question we want to ask is: How has the information generated by AIS vessel tracking technologies, through practices of "inscription" and "visualisation" (Latour 1986), shaped the politics of migration? In other words, how have the (remote) sensing practices and knowledges of multiple actors together contributed to determine who can move and in what condition, thereby shaping the contentious force field of migration? How has this very same information been turned into potential evidence both of human rights violations and of illegal trespassing, circulating across different forums and becoming the object of conflicting interpretations? In this commentary, we will attempt to show how the "techno-political controversy" (Sontowski 2017) surrounding and constituting AIS participates in this "political situation" (Barry 2012) by briefly discussing the emergence and characteristics of this technology, before tracing the successive forms of its re-appropriation within the politics of migration.[3] We will conclude by pointing to the irreducible ambivalence of this technology, and how this demands persistent and painstaking attention in positioning ourselves within the global datascape in which AIS participates.

AIS's technopolitics

Despite being a relatively new technology, AIS has become ubiquitous in the maritime industry since the end of 2004, when the International Maritime Organisation has made it compulsory for all passenger vessels as well as all commercial vessels over a certain size to carry an AIS transponder.[4] The latter broadcasts at regular intervals via a VHF radio

transmitter its vessel ID information as well as details relative to its position and movement that are constantly collected by a built-in GPS receiver and other navigational sensors.[5] The signal is then detected by terrestrial and ship-based receivers and converted into a tabular format before being visualized in chartplotters and online maps such as that displayed by MarineTraffic.

[FIGURE 3]

[FIGURE 3 CAPTION: Sample of AIS data. MMSI stands for Maritime Mobile Service Identity, a unique identification number for ships and shore station (redacted in the image above for reasons of privacy).]

A history of the emergence and development of AIS remains to be written, and we can only provide a glimpse into the meandering genealogy of this system. The technological developments that would crystallize in the form of AIS can be traced back to the 1990s, when the exponential rise in maritime transportation led Vessel Traffic Services to evolve from manual or visual tracking, radar, and voice communications between vessels and coastal watchstanders to technologies that made vessel reporting increasingly accurate and automatic. AIS was thus intended initially as a short-range system to avoid collisions along busy maritime lanes and chokepoints.[6] It was only recently that, in response to newly perceived vulnerabilities in global maritime traffic that emerged in the wake of the "war on terror,"[7] AIS tracking began relying on satellite receivers that extended its coverage far beyond coastal areas. This, combined with the proliferation of cloud processing capabilities, big data analytics and the integration with GPS technology, has allowed AIS to become "a global tool to increase maritime domain awareness," leading to what has been defined by one of its proponents as "the largest paradigm shift in the maritime world since the introduction of the steam engine and the screw propeller over 100 years ago" (Thomas 2016).[8]

The evolution of AIS into a global sensing apparatus not only mirrors the way in which, for

instance, similar technological shifts made possible the setting up of an "integrated, multi-purpose, continual data collection system of a global scale" in oceanographic science (Lehman, 2016). It also echoes how, with the introduction of modern astronomical navigation in the fifteenth century, Portuguese sailors were able to rebuild their "navigational context […] to include the very heavens […] that stayed with the navigator wherever he might go" (Law 1984; see also Sharpe 2016), thus allowing them to be independent from coastal observations and undertake oceanic voyages on a global scale. This "borrowing from the heavens" was instrumental to the development of means of "long distance control" that enabled European colonial expansion, trade and domination (Law 1984).

Similarly, it could be argued, AIS nowadays constitutes one of the crucial tools within a system of logistical integration that is central to global trade and surveillance. Through it, logistical operators and core states of the world system attempt to maintain a global (dis-)order based on the efficient circulation of goods and on policing against near and distant threats. In the context of the shipping industry, AIS tracking not only allows collision avoidance, but also the optimal management of large fleets towards reduction of fuel consumption and maintenance costs. AIS data are also instrumental in achieving very precise predictions of commodity prices in many ports of the world. In terms of maritime surveillance, AIS is used to detect the threats of terrorism and piracy,[9] monitoring fisheries and compliance with environmental regulations, and controlling illegalized migration.[10] Towards this function, AIS data have come to be embedded within a sophisticated and increasingly automated apparatus of remote sensing technologies. Vessel tracking is supplemented by coastal and ship-borne radars, optical and synthetic aperture radar satellites and other sensors so as to achieve the most complete possible "integrated maritime picture." Together, these remote sensing devices compose what Karin Knorr Cetina has called a "scopic system," or, in other words, "an arrangement of hardware, software, and human feeds that together function like a scope: like a mechanism of observation and projection [...]" (Cetina 2009, 64).

AIS data within and against the border regime

This sensorium has also come to play a very important role in the context of the policing of migration across the Mediterranean, insofar as states use it to shed light on acts of unauthorized border crossing. However, despite the optimistic promises of full-spectrum visibility that are ubiquitous in state agencies and surveillance companies' communiqués, the Mediterranean's scopic system does not produce a totalizing panoptic view, but rather operates a form of incomplete and patchy surveillance that constantly runs up against the frontiers of information quantity and resolution. The gaps that routinely exist in AIS data are a case in point. While these can sometimes indicate a malicious act (the deliberate switching off of a transponder in order to hide while undertaking illegal activities), the absence of data over a given space and period of time can be due to a number of factors: standard fluctuations in the signal strength, the absence of satellite coverage, or poor coverage as the result of the lack of a sufficient number of coastal stations, which is particularly acute along the North African coast. In this sense there is an uneven geography of AIS coverage, which is partly the expression of and contributes to reproducing the Mediterranean's highly uneven development and mobility regime.

[FIGURE 4]

[FIGURE 4 CAPTION: Map showing the spatial layout of AIS terrestrial station across the Mediterranean basin. Highlighted are the only five stations located in North Africa, a very low number when compared with the tens that populate the coasts of European countries. Source: MarineTraffic.com]

The patchiness of the Mediterranean's scopic system speaks also to the specific "partition of the sensible" (Rancière 2006) operating across the Mediterranean frontier and creating

particular conditions of (dis)appearance, (in)audibility, (in)visibility.[11] The light that states and border controllers seek to shed on the maritime space is in fact highly selective, and keeps in the shadows the violence and violations perpetrated by states at and through the sea.

It is within and against this partition of the sensible that for several years now we, as part of a much wider movement of transborder activists struggling against the European border regime, have sought to intervene so as to contest this regime of selective (in)visibility. While migrant rights organizations have long protested the mass dying of migrants at sea, they were until recently unable to document violent events at the maritime frontier with a degree of precision sufficient to demand accountability for them. The project Forensic Oceanography (FO) that we initiated in 2011 has been part of a series of initiatives claiming and enacting a non-governmental right to look at and listen in on the seemingly inaccessible spaces of the sea. By combining testimonies of survivors with digital technologies—satellite imagery, AIS vessel tracking data, geospatial mapping—to document violations, we have sought to use these means of surveillance against the grain to exercise a "disobedient gaze" (Pezzani and Heller 2013), one which refuses to disclose illegalized migration but seeks to unveil instead the violence of the border regime. The reports and spatial analysis we have produced have been used within existing legal and political forums, supporting the quest for justice of migrants and their families in legal proceedings, parliamentary auditions, exhibitions as well as human rights and journalistic investigations.

AIS has been central to this endeavor, especially since 2014 when the involvement of merchant ships mandated to carry AIS began to be increasingly called upon by coast guard agencies to recue migrants in distress in the Mediterranean. While in previous years states had been trying to oppose and discourage rescue by commercial vessels with the hope of limiting the number of migrants' arrivals, in early 2015 the shipping industry unwillingly became the second largest Search and Rescue (SAR) operator in the Central Mediterranean and a crucial actor in the politics of migration, rescuing 14,769 people within only five months. Tangled

and zig-zagged tracks unequivocally signaling ongoing rescue operations started to become more and more ubiquitous in that period on online vessel tracking platforms, thus making AIS a privileged observation point of this shift and, more generally, of what was happening at sea.[12] In our "Death by Rescue" report we used this data to demonstrate how this increasing involvement of merchant ships was the direct consequence of the EU's decision to deliberately shut down state-led rescue operations, thus leaving a large gap that shifted the burden of extremely complex search and rescue operations onto commercial vessels.[13] These, however, as shipping industry representatives had warned on several occasions, were unfit for the task, and their interventions led to repeated tragedies, as in April 2015, when two shipwrecks occurred at the very moment of rescue by merchant ships, leading to more than 1200 deaths in a single week.[14] Relying on AIS data, we were able to reconstruct these instances of death by privatized rescue and show how they were not the result of misconduct on the part of the commercial ships but rather the unavoidable (and lethal) effect of the EU's policies of non-assistance.

[FIGURE 5]

[FIGURE 5 CAPTION: The frantic tangle of Automatic Identification System (AIS) vessel tracks in the Mediterranean following the 18 April shipwreck. Credit: Forensic Oceanography, *Death by Rescue* report. GIS analysis: Rossana Padeletti. Design: Samaneh Moafi.]

While after these two large-scale shipwrecks in spring 2015 the involvement of commercial ships dropped significantly, the contextual surge in the number of NGO vessels present continue to make AIS a very useful tool for activists and human rights group trying to contest the violence of borders at sea. Networks such as the WatchTheMed Alarmphone, which receives distress calls from migrants and seeks to ensure that they are swiftly rescued, routinely rely on AIS data platforms to contact the closest boat and ensure rescue operations are carried out. However, as the Gefira video we discussed at the beginning of this article

shows, no actor has final ownership over the use of AIS or other sensing technologies. This was proven once again in the summer of 2017, when "Identitarian" groups launched their anti-migrant "Defend Europe" campaign and deployed their own anti-Search and Rescue vessel, the C-star, to hamper search and rescue NGOs operating in the central Mediterranean. Defend Europe mobilized AIS data, as GEFIRA had before it, to tendentiously read it as evidence of collusion: in particular, they repeatedly pointed to the absence of AIS transmission by NGO boats at certain points in time, not as a logical consequence of the patchiness of the signal off the coasts of Libya, but as evidence of their covering up of illegal activities. In this way, they bought into the already mentioned phantasies of technological accuracy that tend to depict digital technologies as infallible. Moreover, they allegedly attempted to tamper with search and rescue NGOs AIS signals, as denounced by the NGO "Proactiva Open Arms" that had its AIS signal spoofed and transmitting a false position. "Defend Europe" used the hacked AIS signal to decry on social media the NGOs' ship presence in close vicinity to Libyan coasts as constituting, in their reading, another sign of collusion.

[FIGURE 6]

[FIGURE 6 CAPTION: Twitter controversy between the "Identitarian" group "Defend Europe" and the founder of the search and rescue NGO Proactiva Open Arms in July 2017.]

AIS further came to be used against the C-star itself, as anti-racist and anti-fascist networks on both shores of the Mediterranean tracked its movements and mobilized to block its docking and refueling in every port it approached.[15] The battle for the opening or closure of the Mediterranean frontier was fought through AIS, which, after having been used for several years by pro-migrant activists and human rights organizations, became one of the tools employed by far-right groups to demand even stronger exclusionary measures.

[FIGURE 7 CAPTION: Map showing the ports that denied access to the identitarian vessel C-Star. The text reads: “No to the C-Star vessel of the fascist expedition Defend Europe.” The map was produced by Defend Mediterranea, and anti-fascist and anti-racist network and included in its 25th August 2017 press release. http://www.millebabords.org/spip.php?article30891]

While we have so far referred to uses of AIS by different actors who take an explicit and often irreconcilable stance in regards to migration, we should not forget that within the border regime there exists a multiplicity of actors, whose mandate or activities might in principle not be concerned with migration as such, but who nevertheless participate in its politics, also through their (non-)use of AIS vessel tracking signals and data. The shipping industry provides again a good case in point. For instance, the International Chamber of Shipping has been very vocal in calling upon states to “provide […] migrants with alternative means of finding safety without risking their lives […] in unseaworthy boats,” thus becoming an unhoped-for ally for migrants rights advocates (Heller and Pezzani 2015). And yet commercial ships are reported to have been increasingly switching off their AIS transponders when transiting in the Central Mediterranean, so as not to become involved in rescue operations (Østerbø 2015). Here again, AIS participates in the politics of migration in unexpected ways.

Conclusion

From a collision avoidance technology, AIS data have become a tool for global-scale detection and analysis mobilized in many different fields. They have also come to be seized, somewhat surprisingly, as part of an extremely different set of governmental and non-governmental practices in the field of the politics of migration. Through the “migration” of

AIS data across these conflicting usages, non-governmental actors seeking to enable, or, on the contrary, to hinder migration have come to share some of the same epistemologies, technical tools and (sensing) practices, even as AIS data have come to operate as a point of contention in their own right.

These events suggest that, contrary to the messianic promises of mainstream new media pundits, more data, more images and more information clearly do not produce a more "transparent" world that can be technically and consensually managed. Rather, the multiplication of forms of registering and visualizing the world seem to lead to a parallel increase in the conflicting uses and interpretations of them. This raises challenging questions for the actors involved, as the technology itself and each of its uses raise the possibility that they will be seized by and spur innovation in the practices of other actors geared at radically opposed aims, and even against oneself. While since 2011, as researchers and activists, we have contributed to the development of novel uses of surveillance technologies to contest the violence of borders, it is likely that far-right actors, who as of 2016 have seized upon AIS data to monitor and contest nongovernmental rescue at sea, have learned from our prior practice.

We do not, however, consider that the risk of appropriation should limit our engagement with different forms of "data activism" (Milan and Gutiérrez 2015) based on AIS. While we are certainly critical of right-wing *uses* of AIS, we in no way lament appropriation as such, which might suppose attempting to determine a point of origin for the emergence of this media technology and define a "correct" use of it. This would be not only futile, but also deceiving, as the complex and unstable genealogy of this technology that we have started to sketch here already shows. Practices of appropriation should be understood instead in their "irreducible ambivalence," as a "re-coding of the devices, actors, operational logics and effects of [a given technology. This process] implies concessions, compromises and side-effects" (Scheel 2017).[16] If we analyze the "transnational technological zone" (Barry 2012) constituted by AIS

vessel tracking starting from “the middle,” as Deleuze and Guattari (1987) might say, what we observe is rather the constant transformation, both of the technology itself and of its different and conflicting uses within an immanent field of contention. Seeking to intervene with this field, and engaging in the hand-to-hand struggle over the shifting uses of AIS data that have recently multiplied nevertheless, demands of us that we question our own positioning within this global datascape with even more persistent and painstaking attention. Developing a critical understanding of the web of economic, scientific and political relations in which AIS data are embedded appears central to this task, all the more so when considering how AIS data exist in a “media ecology that tends to occlude its infrastructural history and conditions of possibility” (Helmreich 2011). This endeavor, which we have begun in this article, demands to be continued and deepened in the future.

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FIGURES

Figure 1

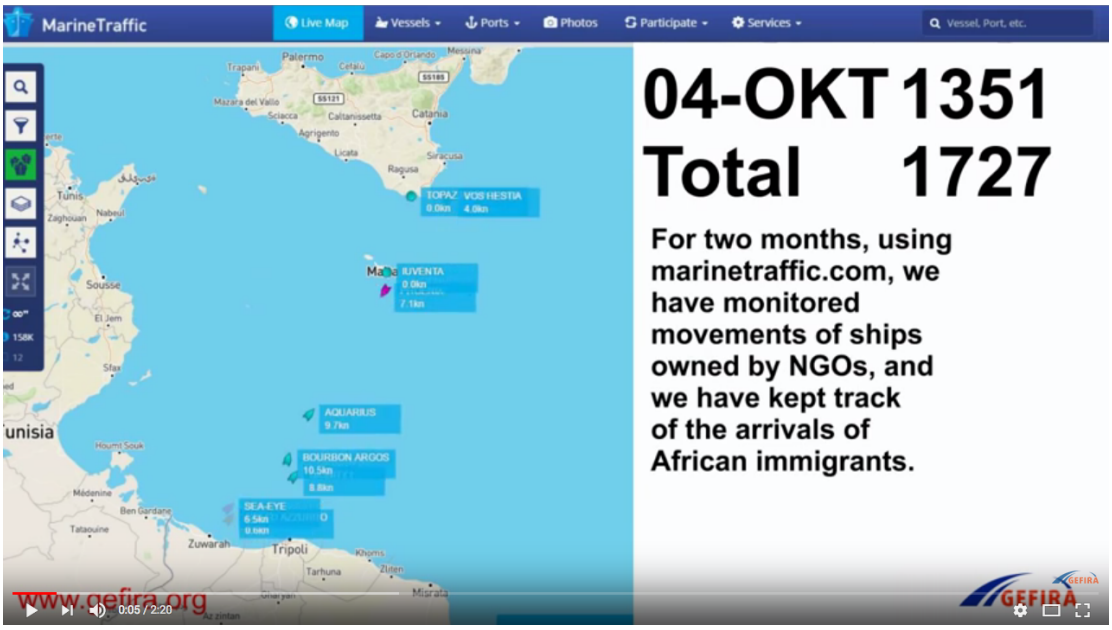

Figure 2

TRACCIATO DAL 26-10-2016 AL 01-01-2017

Figure 3

	A	B	C	D	E	F	G	H
1	MMSI	STATUS	SPEED (KNC	LON	LAT	COURSE	HEADING	TIMESTAMP UTC
2	[redacted]	0	6	14.5517	35.81503	308	157	10/09/16 00:00
3	[redacted]	0	111	12.23877	36.07903	259	262	10/09/16 00:00
4	[redacted]	99	0	14.50174	35.88105	0	511	10/09/16 00:00
5	[redacted]	3	8	14.97803	35.96893	178	216	10/09/16 00:00
6	[redacted]	0	0	14.54722	35.84028	62	511	10/09/16 00:00
7	[redacted]	99	0	14.49876	35.903	238	511	10/09/16 00:00
8	[redacted]	1	0	14.87664	35.84526	155	333	10/09/16 00:00
9	[redacted]	0	55	14.61513	35.86819	176	176	10/09/16 00:00
10	[redacted]	1	0	14.82795	35.90807	0	326	10/09/16 00:00
11	[redacted]	0	27	14.93428	35.83563	142	511	10/09/16 00:00
12	[redacted]	99	1	14.49926	35.89632	94	511	10/09/16 00:00
13	[redacted]	5	0	10.64688	35.8243	0	511	10/09/16 00:00
14	[redacted]	99	1	14.49926	35.89632	94	511	10/09/16 00:00
15	[redacted]	1	1	14.83922	35.80001	345	333	10/09/16 00:00

Figure 4

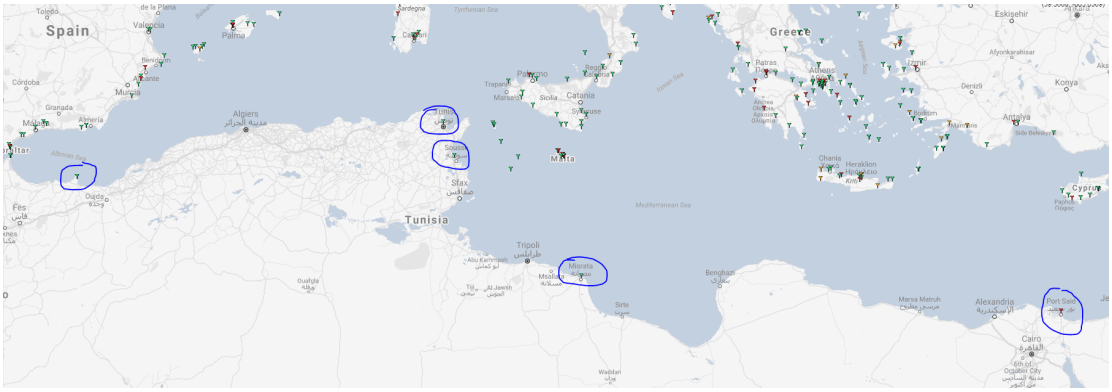

Figure 5

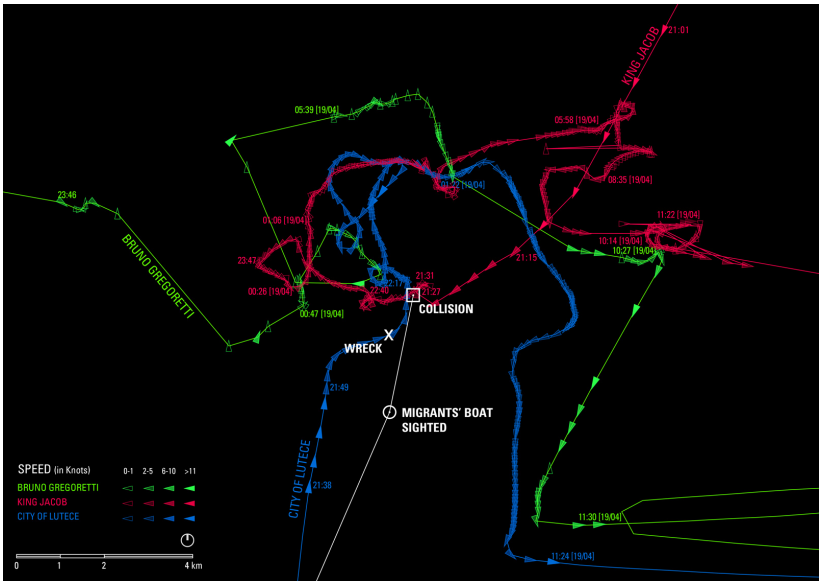

Figure 6

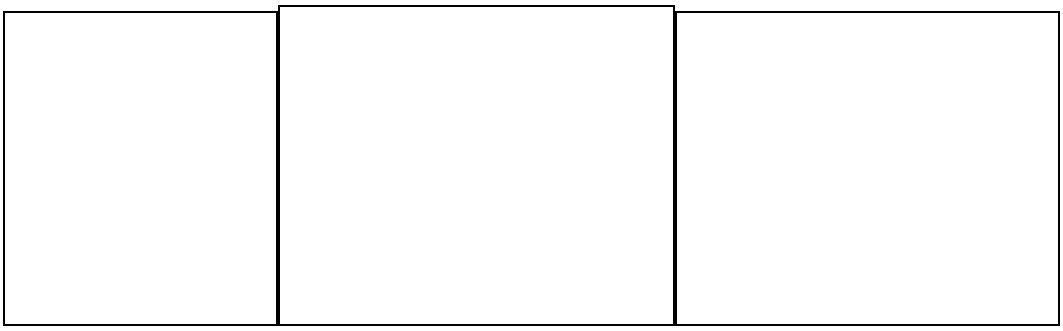

Figure 7

AUTHORS' BIO

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Lorenzo Pezzani is an architect and researcher. In 2015, he completed a Ph.D. in Research Architecture at Goldsmiths, University of London, where he is currently Lecturer and leads

the MA studio in Forensic Architecture. His work deals with the spatial politics and visual cultures of migration, with a particular focus on the geography of the ocean.

Working together since 2011, they co-founded the Forensic Oceanography project, that critically investigates the militarized border regime and the politics of migration in the Mediterranean Sea. Their collaborative work has been used as evidence in courts of law, published across different media and academic outlets, as well as exhibited and screened internationally.

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[1] The NGO *United for Intercultural Action* has kept a list of deaths since 1993, recording "deaths of asylum seekers, refugees and migrants due to the restrictive policies of Fortress Europe." The latest version (June 2017) identifies 33.305 deaths, the wide majority of which have occurred at sea. http://unitedagainstrefugeedeaths.eu/

[2] https://www.facebook.com/pg/LucaDofficial/videos/

[3] This paper sits at the intersections of (and draws inspiration from) several disciplinary fields and scholarly concerns: from critical migration and border studies, especially works looking at the aesthetic (De Genova, 2013) and techno-political dimensions of bordering (Scheel, 2017; Sontowski, 2017), as well as the dataification of border surveillance (Broeders and Dijstelbloem, 2016; Amoore, 2006); from mobility studies (Sheller, 2018) to critical analyses of big data and data activism (Milan and Gutiérrez, 2015) and works dealing with the geography of the ocean and the ocean as sensorium (Steinberg, 2001; Lehman, 2016).

[4] http://www.imo.org/en/OurWork/Safety/Navigation/Pages/AIS.aspx

[5] For more information, see: https://help.marinetraffic.com/hc/en-us/articles/205426887-What-kind-of-information-is-AIS-transmitted-

[6] See for instance: Ulysses Mullins, "Leveraging Technology to Improve VTS Operations," in *Proceedings*, vol 64.2 (2007), p. 16-17.

[7] One of the main proponents of satellite AIS claims that satellite AIS was a direct response to 9/11 and emerged as a result of "a counter-maritime terrorism study to determine what were the maritime vulnerabilities of the United States and what could be done to counter them" (Thomas 2003 and 2017).

[8] ORBCOMM, a company offering "industrial Internet of things (IoT) and machine to machine (M2M) communications solutions designed to track, monitor, and control fixed and mobile assets" was amongst the first to launch AIS satellite receivers in 2008. It now operates a network comprising "18 AIS-enabled satellites that feed into 17 earth stations sited in strategic locations around the globe." See: https://www.maritime-executive.com/editorials/ais-meets-iot

[9] http://earthi.space/blog/satellites-prevent-maritime-piracy/

[10] https://phys.org/news/2016-02-marine-vessel-tracking-lifesaver-wildlife.html

[11] The French philosopher Jacques Ranciere has used expression "partition of the sensible" to refer to what he calls "the distribution and re-distribution of times and spaces, places and identities, that way of framing and re-framing the visible and the invisible, of telling speech from noise and so on." In this sense, the term should be understood as an attempt to rethink politics as "the framing of a specific sphere of experience," rather than the mere exercise of power or struggle for power as it is commonly understood.

[12] In order to carry out a rescue operation, merchant ships need to divert their planned course—the shortest line connecting two ports—to reach the area of operation, significantly slow down their speed, start searching using a zig-zag sweep pattern and, once the boat is located, bring their navigation to a halt and transfer all passengers from the rescued boat or provide protection from waves while other vessels more apt for rescue arrive.

[13] See our report, "*Death by Rescue - The Lethal Effects of the EU's Policies of Non-Assistance*," https://deathbyrescue.org/

[14] "ICS: Rescue of all persons at sea is a must," *World Maritime News*, 29 October 2015, http://worldmaritimenews.com/archives/141521/ics-rescue-of-all-persons-in-distress-at-sea-is-a-must/ (last accessed 12 April 2016).

[15] Press release by Defend Mediterranea, 25th August 2017. http://www.millebabords.org/spip.php?article30891

[16] While Scheel's quote (2017) refers specifically to the appropriation on the part of migrants of the means and methods of mobility control, we think this concept can be successfully extended to capture the different form of appropriations at play in the use of AIS technology discussed in this commentary.