In a global crisis **connectivity is king**

Nabil Ben Soussia, at IEC Telecom, discusses the way in which the Covid-19 pandemic is changing the nature of our communications – at sea as well as on land

Ships which have embraced digital connectivity are better positioned to cope with unexpected events like the worldwide Covid-19 pandemic and this realisation will have significant impacts on the future of satellite communication systems as the maritime sector emerges from this global crisis.

As the pandemic spread rapidly and the world shut down, ports closed to vessels, airlines grounded planes and seafarers became stranded on board as crew changeovers became impossible.

At this point there was a clear difference between those vessels with VSAT capability onboard and those without, particularly in terms of being able to provide much-needed welfare support for crew. Crew who were expecting to be home with their families found themselves working on board for many extra weeks. And seafarers who would usually conduct their online activities ashore during port visits were unable to do so.

Quite naturally there was an increased need among crew to be able to keep in touch with home via electronic communication. They wanted to maintain their connection with home – to voice or video call their families, to see if they were well, to support them, to reassure them and to feel close to home at this difficult time.

With seafarers stranded around the world and crew contracts extended for months, companies (such as IEC Telecom) began to receive requests for increased crew communication provision. There was a significant increase in demand. In recognition for the extra work their seafarers were doing and the fact they were away from home for much longer, many shipping companies sought to double the capacity for crew communication.

Connectivity solutions provide the facility for remote upgrades, maintenance and adaption. This means that additional capacity can be added and accessibility levels amended remotely, without the need for an engineer to board the vessel – which was made impossible by global movement restrictions. Using remote access facilities, solutions such as OneGate enabled companies to give seafarers enhanced online connection while at the same time increasing the vessels' bandwidth speed to cope with escalating digital traffic. Importantly, built-in and advanced levels of cyber security in such systems mean critical functions are protected from crew welfare activities and that the greater risks posed by this significant increase in internet use are mitigated.

Most maritime clients use "scratch cards" or similar systems to provide crew connectivity on a "fair access" policy. Restricting crew usage levels usually prevents everyone from accessing the internet at the same time and thereby overloading the vessel's connectivity systems. With crew stuck on board for extra time, greater accessibility is needed to carry out the online functions they normally carry out at home or in port, such as paying bills, ordering goods, or checking emails etc. Vessel operators have recognised this need and responded to it – for example, asking to double scratch card capacity from 1GB to 2GB.

Restricting provision typically also has the effect of encouraging crew to use less bandwidth. So, for example, they may make a voice call rather than a video call. With the pandemic threatening their families it is only natural that seafarers would wish to make more personal contact with their loved ones via methods like video calls – making the increase in online access essential to their well-being.

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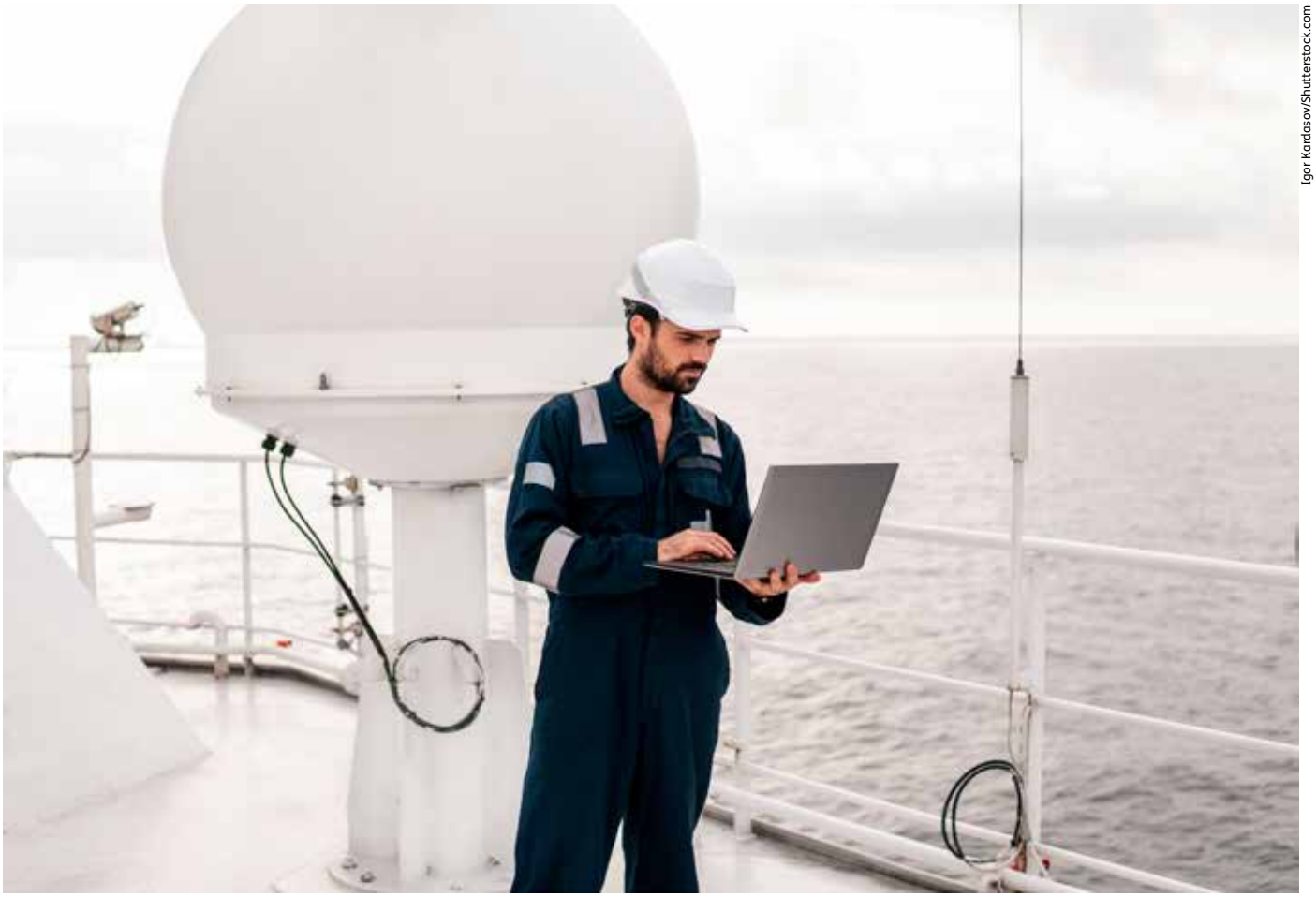
For the vessel operators themselves there is also a need for greater bandwidth. Vessels that were not able to operate normally, not able to dock or carry out their routine maintenance or inspections needed to prioritise connections with shore staff, particularly with human resources teams and those providing support for seafarers.

A number of crew research projects in recent years have identified crew connectivity as a major influence in the recruitment and retention of seafarers. Robust satcom links are seen as an integral component of modern offshore communications. In the light of the Covid-19 pandemic this need for connectivity has grown exponentially. Advanced VSAT connectivity with up to 8 Mbps bandwidth facilitates a full spectrum of online communication, including voice calls, email, internet browsing, teleconferencing, telemedicine, e-learning and much more. Even for smaller vessels which cannot install VSAT there are now reliable and flexible L-Band solutions such as Thuraya Orion IP, Thales VesseLink and Inmarsat's Fleet Broadband, which provide a stable signal in the range of 250 to 700 Kbps.

Robust back-up systems are also recognised as an essential part of today's business contingency plans. Nowadays businesses operations are heavily dependent on digital connectivity. For big organisations, even a short-term disconnection may result in huge losses, so a reliable satellite link is the perfect solution to ensure continuity of operations at sea or on land.

Satellite back-up systems are built in such a way that, for a modest monthly fee, corporate entities get a reliable link which



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will only be activated if the main network goes down. In effect it is an insurance policy and the absence of this back-up could result in significant loss if disaster strikes. Industry figures show that, should a company's primary broadband service become disrupted, the cost to business can be considerable.

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With connectivity systems down, research reveals that everyday operations will come to a halt for approximately 38 per cent of businesses. Of these, 13 per cent immediately start losing money following an outage, while 46 per cent will suffer a financial hit after four hours. Meanwhile, the average waiting time for service to resume is six hours. While larger companies statistically lose the most money and productive hours, the effects of connectivity failure apply to all sizes of business: big, small and micro. As a general rule of thumb estimated losses are calculated as the average downtime hours per business multiplied by the cost per productive hour lost.

The average annual cost of loss of connectivity per business is therefore:

- Solo (1 person) – £41
- Micro (2 to 9 people) – £527
- Small 10 to 49 people) – £3 ,950
- Medium (50 to 249 people) – £15,670
- Large (250+ people) – £497,433

With the realisation, post Covid-19, of the vital role connectivity plays in the smooth running of business operations throughout the maritime community, and wider, it is certain that robust back-up systems will also become a must-have for many companies. As the world emerges from the pandemic over the coming months, tech firms are anticipating an increase in demand for digital vessel systems.

After this pandemic we will see a very high demand. Increasing numbers of vessel operators will look at going digital or increasing digital capacity as they realise the benefits of robust connection in difficult times. This viral outbreak happened very suddenly and no one was prepared for it. But next time, people will expect companies to have learned from what has happened and to be more prepared. This will change our whole industry. ***MRI***

Nabil Ben Soussia

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