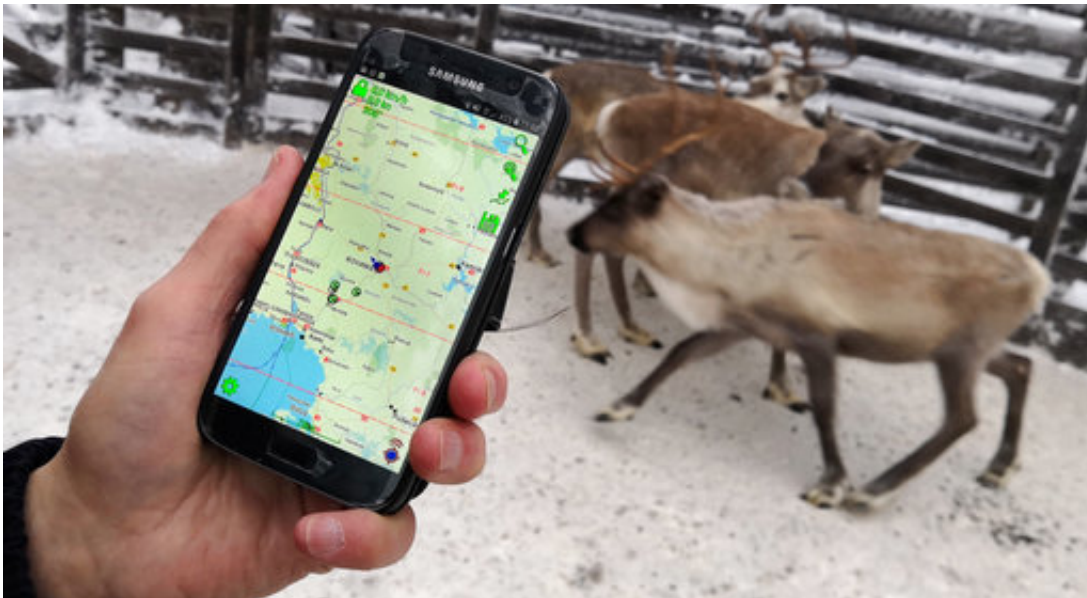


Then one foggy Christmas Eve, reindeer got connected

December 20 2018, by James Brooks



Reindeer herder Seppo Koivisto holds a smartphone, showing the mobile app used to locate reindeer in Finnish Lapland, in Rovaniemi, Finland, Thursday Dec. 13 2018. To keep track of their animals in Lapland, Northern Finland's vast and remote snow-covered forests, reindeer herders are turning to technology by fitting them with internet-connected collars. (AP Photo/James Brooks)

Rudolph and friends no longer need to rely on the famous reindeer's red nose to avoid getting lost. Now they have wireless technology.

To keep track of their animals in Lapland, Northern Finland's vast and remote snow-covered forests, reindeer herders are turning to technology

by fitting them with internet-connected collars.

Herders who previously spent weeks searching for their reindeer in sub-zero wilderness can now instantly see where they are on a mobile app that receives up-to-date location data.

"In all sectors of society, this (tech) efficiency is playing a big role. It's the same in reindeer husbandry," said Seppo Koivisto, whose hundreds of reindeer roam Lapland's 4,000 square-kilometer (1,545 square-mile) Palojarvi District.

Lapland's reindeer are the main source of livelihood for about 1,500 herders, so there's high interest in technology that can help manage them. Koivisto is using the latest generation of wireless collars made possible by a group that includes Helsinki-based communications firm Digita and Finland's Reindeer Herding Association. The association is based in Rovaniemi, which bills itself as the "official hometown of Santa Claus."

"We have fewer workers, so their actions should be more and more efficient all the time," and this technology lets them do that, said Koivisto. Since he started using the technology, he has only had to hire half the usual number of workers.



Matti Sarkela from Finland's Reindeer Herding Association holds an internet-connected reindeer collar, that can connect to a smartphone to locate roaming reindeer in Finnish Lapland, in Rovaniemi, Finland, Thursday Dec. 13 2018. To keep track of their animals in Lapland, Northern Finland's vast and remote snow-covered forests, reindeer herders are turning to technology by fitting them with internet-connected collars. (AP Photo/James Brooks)

The technology can also help herders account for attacks from predators such as wolverines and lynx that roam across the Russian border.

At least 5,000 reindeer are killed every year, according to the herding association. Most that die in Lapland's forests are never found. Koivisto says he loses about 8 percent of his herd annually.

The collars, which use GPS satellite positioning and special long-

distance wireless networks, help herders find reindeer corpses so they can claim valuable compensation from the Finnish government.

If a collar-fitted reindeer doesn't move after about four hours, its icon changes from green to red on the app, signaling a potential attack.

To best locate groups of reindeer, which are bred for their meat, milk and fur, the trackers are fitted on the herd's female leader.

"In the old days, we roughly knew reindeer locations, in which part of the district they were," said herder Jarno Konttaniemi. "But today, with this technology, we know exactly where they are."



Reindeer herder Seppo Koivisto stands in a reindeer farm in Finnish Lapland, in Rovaniemi, Finland, Thursday Dec. 13 2018. To keep track of their animals in Lapland, Northern Finland's vast and remote snow-covered forests, reindeer

herders are turning to technology by fitting them with internet-connected collars.
(AP Photo/James Brooks)

Digita built the long-range network, which it says is the world's most northerly "Internet of Things" network. The "Internet of Things" refers to the next generation of devices and everyday objects that are connected to the internet.

While reindeer herding has roots going back hundreds of years, "at least some of the reindeer owners are really up-to-date when it comes to using technology," said Ari Kuukka, Digita's head of "Internet of Things" services.

The herding association has been working for years on a reliable GPS reindeer tracking system. The main challenge was coming up with a device that was cheap but had a long-lasting battery.

The third and latest prototype is the size of a deck of cards, stays charged for about a year, and costs about 90 euros (\$102).

The herding association hopes to eventually shrink the transmitter down to a coin-sized microchip that can be attached to a reindeer's ear, said Matti Sarkela, the herding association's head of office who has previously helped develop a mobile app that alerts drivers to reindeer near Finland's often icy roads.

He hopes embracing new technologies can inspire the younger generation to carry on the herding tradition.

"It has brought a lot of young people into our industry all the time," said Sarkela. "It's a really positive thing."

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