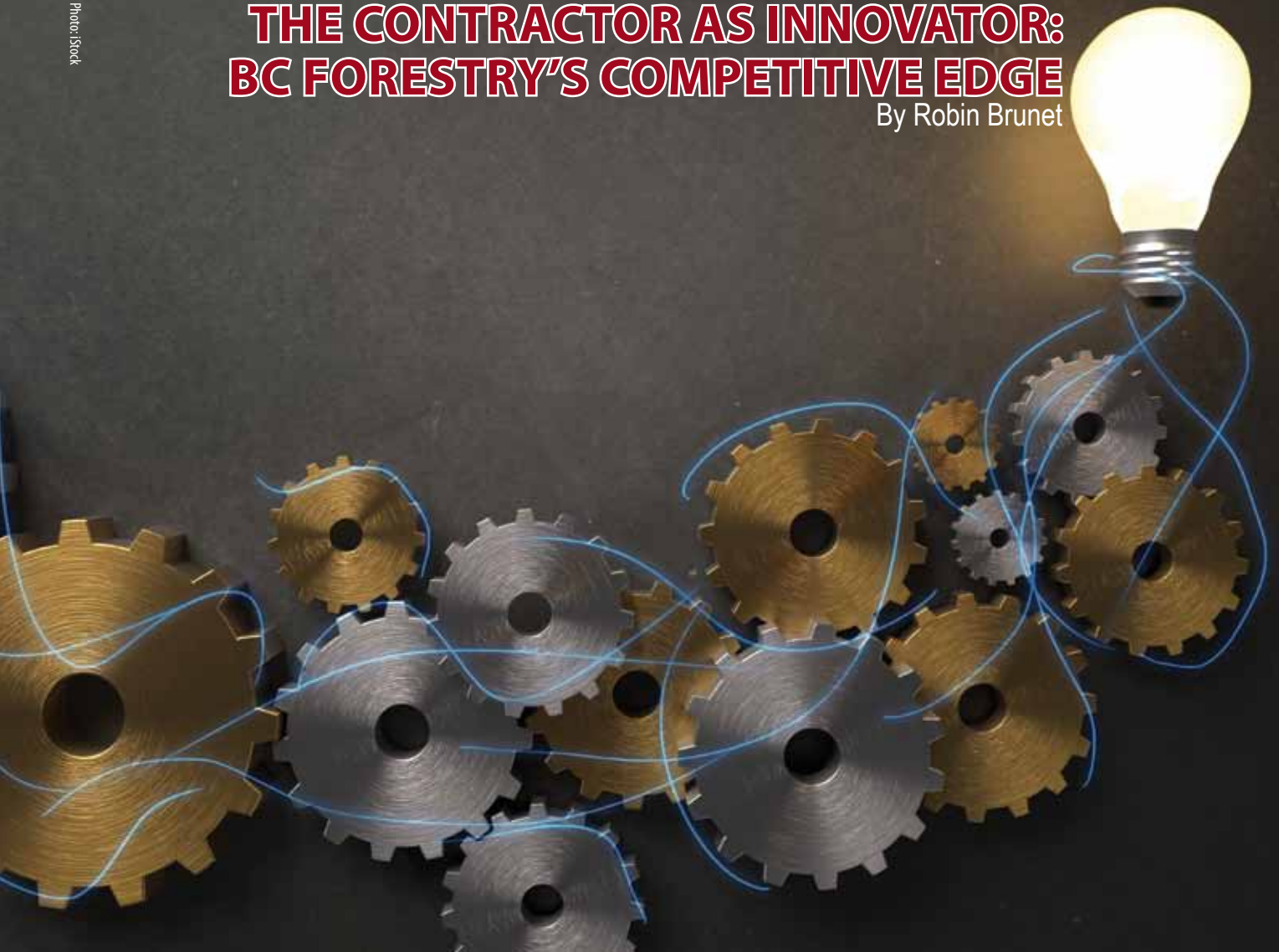


# THE CONTRACTOR AS INNOVATOR: BC FORESTRY'S COMPETITIVE EDGE

By Robin Brunet



Arguably, if logger Harper Baikie hadn't shown up late at a company Christmas party in 1949, logging today in BC as well as in other parts of the world would be substantially different—and perhaps far less efficient.

The Campbell River-based contractor had spent most of the day soaking wet, and when the partygoers good-naturedly chided him for missing out on the festivities, he replied indignantly, “If I had a portable steel spar tree instead of having to rig up something in wood, I'd have gotten here a lot sooner.”

Overhearing this remark was manufacturer Chuck Madill, who imagined Baikie's brainchild: a portable, self-propelled yarder able to move quickly from site to site, enabling operators to compress yarding cycles that were the most problematic stage of log transportation—and rendering obsolete the riggers who stood in the rain preparing spar trees.

Eventually, Madill and the Baikie brothers (Wallace and Jack, in addition to Harper) got together at the former's workshop in Nanaimo, and Harper's invention was rendered in steel in 1955: a

**“If I had a portable steel spar tree instead of having to rig up something in wood, I'd have gotten here a lot sooner.”**

70-foot tower and Skagit donkey mounted on a white logging truck frame. The tower folded down for moving, and the entire unit took only several hours to set up. The Madill 009 Yarder became one of the most widely used logging machines not just in BC, but around the world—and the basic design was copied by many other manufacturers.

It's a story that especially impresses George Lambert, who along with partner Gord Olafsen founded T-Mar Industries in Campbell River in 1984

based on the spirit of collaboration that existed between people like Baikie and Madill. “The point of the story was that it was a logging contractor who came up with an idea for equipment that would

change the face of logging for the better, and there are no end of examples of contractors whose input has been influential in the development of new machines and technology,” he says.

T-Mar is well known for being a leader in logging equipment design, remanufacturing and parts supply for the forestry, hydroelectric, mining, and pulp and paper industries, but Lambert stresses that “Just as Chuck Madill was inspired by Baikie's working vision for a steel spar tree, we take



would take advantage of that acumen—as we do, constantly.”

Of like mind is Brian Mulvihill, forest products manager at Finning (Canada). “I fundamentally believe most innovation is germinated at the end-user level,” he says. “Granted, for every 1,000 ideas only four or five can be marketed, but that doesn’t take away from the fact that innovation—as opposed to refinement of existing technology—has allowed industry to take quantum steps forward in productivity and safety.”

Contractor ingenuity is nothing new—even when Harper Baikie appeared at his Christmas party soaking wet over 60 years ago. Loggers have been credited with the development of overhead cable yarding systems that facilitated true mass production during the first two decades of the 20th century, and it is said they had substantial input in the development of the crawler tractor, which was crucial in skidding logs over moderate terrain.

Richard A. Rajala, author of *Logging British Columbia: A History of Technological Change in Forest Harvesting 1860 to the Present*, notes that further back still, innovative loggers in BC adapted the steam-winch of cargo ships to logging:

The first prototype “Madill Mobile Spartree” arrives at Baikie Bros. Logging in 1956. It’s mounted on an ex-military rubber-tired carrier provided by Baikie Bros.

our inspiration from the contractors in the field.

“To us, it makes perfect sense: these are the guys who know the intricacies of the work they’re faced with, what

type of systems work best and what is lacking. Their technical skill goes a long way in determining practical solutions to problems, and any equipment manufacturer worth his salt

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J.M. Stewart, John McDonald, and W.H. Higgins each mounted small engines on scows and yarded timber off the English Bay shoreline, inaugurating the use of steam power in the 1890s; and it is widely believed that machinery of this type may have been put to use in ground yarding in coastal forests during the same era.

In short, innovation isn't merely a by-product of loggers' time in the field: it seems to be an inextricable part of their DNA. Moreover, people schooled as engineers found it beneficial to gain a first-hand knowledge of logging in order to hone their design skills. Case in point: Frank Lawrence, acknowledged as one of BC's most inventive equipment builders, entered the field in 1922 as a wood splitter for a steam donkey and didn't return to his chosen profession until 1934, when he began building gas and diesel donkeys that enjoyed great demand among coastal loggers.

Rajala characterizes the 1940s and 50s as the decades in which contractor innovation was most prevalent. For example, truck logger Archie McKone designed a pre-loader featuring detachable bunks, steel-inclined ramps, and skids that re-



Photo: Courtesy of T-Mar Industries

laid on gravity; he eventually established a Vancouver company to manufacture his invention.

Another member of the Baikie family, Jack Baikie, was responsible for doing away with the traditional practice of loading logs with steam cable machines and tongs. "In the late 40s, Baikie's crew

was using this process to remove logs from Campbell Lake, and unsurprisingly the intensity of work resulted in them frequently falling into the water," Lambert recalls. "The sight of them huddled in the work shack, soaking wet, caused Jack to consult with a local blacksmith and develop the first line grapple, an idea that,

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Demonstrating how the tower is erected on Baikie Bros. land near the present day Freshwater Marina.



Taken in 1968, this photo shows a slightly more modern steel spar and a heel boom loader.

although refined over the years, has remained the same because it was so good.” Lambert’s colleague at T-Mar, Ed

Hughes, worked as the senior engineer and designer for Madill for 30 years, starting in 1977. “The innovative spirit

back then was still very strong: we always had people coming in wanting something done,” he recalls. “And even

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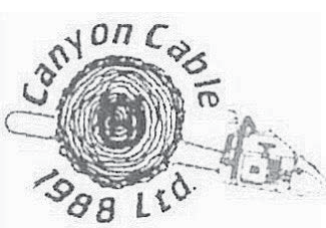
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though the industry has had more than its fair share of challenges, there are still examples of that process. We built a steep slope traction assist device that was the brainchild of a contractor who wanted to reduce the hazards of steep slope logging. We sold the machine to a US client, and now it's in use with another client in Australia, who apparently thinks it's wonderful."

had no money and didn't really know what we were getting ourselves into, we quickly filled a niche and saved clients from going back and forth from one type of company to another, trying to determine who's responsible for what, and who handles the warranties."

Of T-Mar's early years, Lambert says, "All of the ideas for new equipment and refinement came from the guys in the

But although the history of BC logging is replete with examples of contractors coming up with better ways to ply their trade, Mulvihill notes that "I've seen less risk-taking on their part than ever in the past 10 years, simply because the profit margins are gone. Contractors are still innovative by nature, but they can no longer afford to follow through on their ideas; they can't take on their share of risk anymore, and manufacturing companies by and large can't help them because they have to be fiscally conservative.

"Sure, we'll continue to make equipment better, but the quantum leaps such as from hand falling to the chainsaw are no longer. The last substantial, big idea was steep slope, and all I can do is hope that maybe one day we'll see a return of those quantum leaps forward."

When asked what's so bad about contractors having to resort to off-the-shelf solutions, Mulvihill replies by way of conclusion, "Because our industry flourished with those quantum leaps forward. Frankly, without grassroots innovation, I don't see how we can achieve meaningful growth."▲

## Frankly, without grassroots innovation, I don't see how we can achieve meaningful growth.

Hughes charitably says of the phenomena of contractors approaching manufacturers with ideas today, "the market is so small you want to get something out there that works right away, because it's the buyers who really fund our development."

It could be said that T-Mar itself was the outcome of innovative inspiration, of sorts. "Gord and I had a vision to develop a heavy equipment rebuild facility with mechanical, machining, and welding services all under one roof," says Lambert. "Nobody else had done this on the west coast, and even though we

seat, so to speak. Our salesman, Wes Cox, was adamant that we travel from coast to coast to seek input and watch machines operate in the field. It was that process that enabled us to develop a questionnaire for equipment operators, which in turn guided us in our development of the steep slope traction technology." T-Mar's Log Champ 550 and 560 Yarders are mainly based on operator input and have been called the most versatile and efficient yarders currently in use in North America and other parts of the world.



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