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The spheric propulsion principle
Propelling a start-up to success or sinking it?

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1 The case

Living at the banks of the Rhine river, Thomas Schueller was thinking since his boy­
hood whether a better way of propelling ships could be imagined. Paddle wheels had
become obsolete for economic reasons, hydrofoils could not be used on slowly moving
freight ships. A special design, the azimuthing gondola that contains the propeller and
the engine, and that can be turned in any direction to support the steering had arrived,
but was tried out on ocean vessels only because it needed quite a bit of draught. Most
ships in these days used screws or propellers with two to seven wings attached to an
axle that runs parallel to the direction that the ship is supposed to take.

Thomas' thinking intensified when he became the captain of various pleasure boats
cruising on European rivers, because he observed a number of serious drawbacks of
traditional ship propulsion by propellers. The current produced by screws pulls the
ship towards the ground, particularly when operating in flat waters. In fact, river ships
have to travel through shallow waters, particularly so in summer time when shipping
might even be restricted because of very low water-levels. Therefore, it would be far
better if the propellant would push the ship away from the ground. In particular, ferry
boats carrying trucks, passenger cars and passengers from one river shore to the other
could have particular problems when coming close to the shoreline, standing the risk
of their propellers hitting the ground. Furthermore, ships passing each other cause
substantial waves, such that for short times their propellers might not rotate totally
within the water. This causes sudden losses of efficiency and power to advance the
ship. Also, repair work on propellers can not be performed from within the ship, and
only at the risk of oil spills. Having experienced the nightmare of three such oil-spills,
Thomas wants to make a new propelling principle more resistant to such dangers.
Docking for repair is not only expensive in itself, but it also leads to off-hire periods.
The low margin of the industry can disappear totally when only few such off-hire days
become necessary. And, last but not least, current engine efficiency levels of some 30%
for ships on inland waterways should be markedly improved. Thomas asked himself
over and over again: Could there be a better propelling principle?

The longer he thought about this, the more an idea developed which he finally
sketched on paper. A ball shaped, rotating propellant seemed to be a feasible solution.
A small demonstration model was built at home, using his electrical drilling machine
as the engine. Demonstrating the principle in his bathroom shower to Matthias
Schmitt, owner of Schmitt Steelconstruction Inc. convinced both of them to produce a
somewhat larger prototype model. Schmitt Steelconstruction Inc. is specialized on
building small boats, barges, pontoons and pontoon bridges from steel or aluminum.
By joining forces, the spheric propeller came into life, and Dolphin Tec Inc. was char­
tered by Schueller and Schmidt to build and market this innovation. Schmitt Steelcon­
struction and Schueller are the joint and sole owners of the company. Because of a lack
of resources of both founders, Dolphin Tec's equity is at the minimum level that the