The IDENtRential AdvANTages of the lORING Smart ROSTerA have taken the global SpECiality coffee iNdusTry by storm.

People put the idea in my mind, that if someone could invent a smokeless roaster, that could roast well without an afterburner, then they’d set. he says. "With that in mind, I started toying around." After 20 or so designs, Ludwig found himself staring at a schematic that seemed to meet this need for a smokeless roaster. "I just couldn’t figure out why this one wouldn’t work," he recalls.

This design - which is called the Flavour-Lock Roast Process and is commercially available today from Loring Smart Roast Inc. - is what Ron Kleist, Loring’s Vice President of Sales, describes as “a massive breakthrough, with no room for compromise.”

The key to the Loring roaster is the highly efficient gas burner placed inside the cyclone, something unique to the Smart Roast system. The heat from the gas burner divides by the cyclone into two zones: one zone heats up all the smoke and odours before leaving the roaster while the second zone is at the right temperature for roasting the coffee. The result is a completely enclosed system that simultaneously roasts coffee and incinerates the smoke and odour that occurs during roasting. Because the smoke is incinerated in-situ (at the source), there is no need for an after-burner or filter of any kind.

This makes the Loring uniquely efficient: compared to a traditional roaster with an afterburner, the Loring can save as much as 83 per cent on fuel costs, which means it produces 83 per cent less CO2, a known greenhouse gas. A huge additional bonus is that there is no need to clean the cyclone or stack; in fact the complete air passage for the air used to roast the coffee remains clean for the life of the roaster because the machine is in a constant, inherent “self-cleaning” mode. The result is also safer equipment, with minimal risk of roaster fires, and less resting time lost due to cleaning.

The other zone generates the heat to roast the coffee. Here, Ludwig discovered a few rather surprising advantages of The lORing Smart ROSTer.

The incidental advantages of the Loring Smart Roaster

The second major bonus, one that Ludwig admits is entirely incidental, is the decreased oxygen and increased level of humidity produced within the roaster. Because the burner is fired on a stoichiometric ratio, there is little or no residual oxygen left in the air. Oxygen is considered an “enemy” of the flavour of coffee. And the burning of gas produces water vapour resulting in this amplified humidity in the Loring. One of the advantages is the increased sweetness and aroma.

A study by the University of Zurich confirmed that increased humidity leads to a higher quality coffee. With a background in venture capital and finance, Kleist says that maintaining this balance of cost and other advances.

Moving forward, Ludwig is looking to take advantage of this technology towards iPad control and other advanced control.

Today, anything seems possible after seeing his small design has come to life on such a global scale. It was a risk he says he’s never regretted taking. "To think for a minute that I could compete with all those big companies, some of whom have been building machines for a century, it was rather naive of me," he says. "But I just kept pushing forward. And at the end of the day, I’m pretty happy I saw naivety."