

## It is not enough to economize - survivors invest!

The meat industry is facing tough times in most countries as a result of the financial crisis, tough competition and high cost levels e.g. salaries.

As a consequence, investments are kept at a minimum in many companies.

Companies that take advantage of **Research and Innovation** even in tough times will be better off at the other side of the difficult times.

**DMRI can offer** meat companies to identify economic profits and to realize them. Even minor investments will lead to better competitiveness both in the short and long term.

### Examples are

• Improvement of chilling facilities in meat companies in order to:

- Reduce energy consumption
- Minimize chilling loss
- Improve meat quality

• Technology that leads to:

- Reduction in salaries
- Improved hygiene
- Improved yield

• Optimized utilisation of raw materials in order to:

- Maximize yield
- Optimize quality to comply with specifications

• Efficient layout and logistics in order to:

- Optimize transportation
- Minimize manpower

### Profile

DMRI offers consultancy and innovation to the meat industry based on research regarding:

- Improvement of efficiency
- Management of product quality
- Maximal food safety

### Key services

- Animal welfare – transportation, lairage and stunning
- Optimisation of byproduct handling
- Design and optimisation of chilling facilities
- Improvement of meat quality
- Improvement of food safety and hygiene
- Improvement of efficiency through automation and methods
- Optimized raw material utilisation through sorting and management
- Odour abatement
- Waste water treatment
- Reduction of water and energy consumption

# Improvement of Efficiency and Productivity

## Determine the optimal economic carcass chilling process

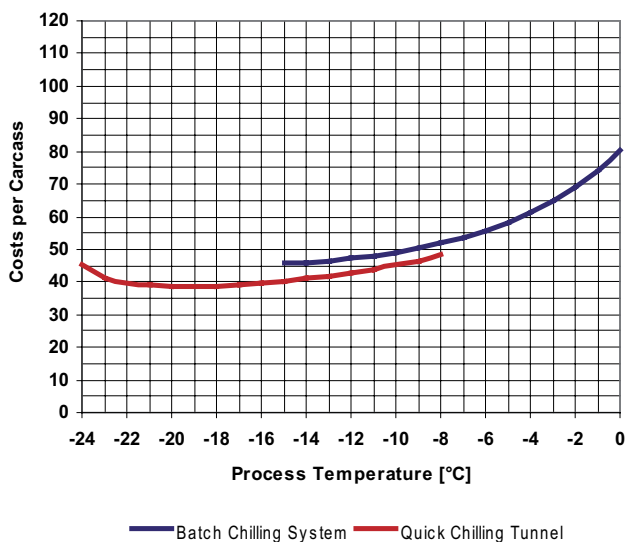
### Result from a client process analysis

At one customer, DMRI verified a loss of DKK 2.50 or € 0,35 per carcass, which we were able to recover in an existing process.

### Simulation tool

DMRI has developed a new simulation tool that determines the optimal economic chilling process specific to your needs. The tool determines the optimal chilling process and operating point, whether you are contemplating to build a new chilling process or refurbish your existing.

Quality Optimized Chilling Costs



Pig Carcass Chilling Calculations				
Quality Parameters		Performance Brief	Quick Chill Info	Batch Chill Info
<b>Quality Costs</b>				
Drip Loss :	<input type="text" value="7"/>	DKK	per kg	
Meat Colour :	<input type="text" value="0,01"/>	DKK	per kg	
Tenderness :	<input type="text" value="0,02"/>	DKK	per kg	
Cold Shortening :	<input type="text" value="2"/>	DKK	per kg	
Bone Discoloration :	<input type="text" value="5"/>	DKK	per kg	
PSE-meat :	<input type="text" value="2"/>	DKK	per kg	
Shelf Life :	<input type="text" value="0,5"/>	DKK	per kg	
Chilling Weight Loss :	<input type="text" value="15"/>	DKK	per kg	

The tool is based on all relevant operating costs, like costs for e.g. electricity, interest, maintenance, etc., and meat quality costs as you and your customers value them, see the table above. The programme supplies the result based on your figures.

**DMRI can offer** to evaluate and determine your chilling process – and make a master plan based on best practice for you.

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## Automated carcass neck cleaner and front feet cut

### Results from the test facility

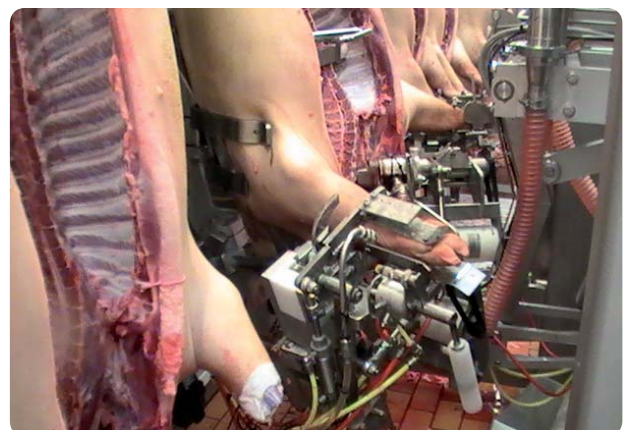
The quality of the trimming and front feet cutting process is very high when using the new machine, and the economic potential is as much as DKK 1.35 or 0.18 € per carcass – based on Danish conditions.

The new machine processes 600 carcasses/hour and does the work for up to 3 operators. The new machine is equipped with tools made of aluminium, which enable the machine to operate with electrical servo motors providing the high throughput.

The machine is ready for delivery in April 2010.

### When purchasing the machine – DMRI can offer

- To make quality assurance of specification and layout
- Assistance during commissioning and performance test
- Training of operators improving efficiency and management focus



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