QUINTIQ FOUNDERING VISION
Solving the world’s planning puzzles
What does Quintiq do?

Solve business operations planning puzzles ranging from manufacturing scheduling for complex sequencing, to logistics routing and dispatching, to workforce scheduling – with a single application.

Workforce

Manufacturing

Logistics
Supply Chain Planning market opportunity?

- Software market valued at $4-6+ billion annually
- Supply Chain Planning software market growing at 8% per year
- Is a top buying priority for large companies with complex supply chains
- Attractive to partners: SCP projects implementation revenue-to-software is 2 to 10X the license value

Quintiq’s market position

Quintiq is the fastest growing SCP vendor among the top 5

<table>
<thead>
<tr>
<th>Rank</th>
<th>Vendor</th>
<th>Revenue growth %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAP</td>
<td>16.8</td>
</tr>
<tr>
<td>2</td>
<td>Oracle</td>
<td>1.8</td>
</tr>
<tr>
<td>3</td>
<td>JDA Software</td>
<td>2.0</td>
</tr>
<tr>
<td>4</td>
<td>Quintiq</td>
<td>25.7</td>
</tr>
<tr>
<td>5</td>
<td>Epicor</td>
<td>14.7</td>
</tr>
<tr>
<td></td>
<td>Other vendors</td>
<td>9.6</td>
</tr>
</tbody>
</table>

Note: Values includes license software revenue ONLY.

“... driven by its unique supply chain planning platform proposition.”

Quintiq recognized as a “Leader” in Gartner’s Magic Quadrant for Supply Chain Planning

“... has one of the highest levels of overall customer reference satisfaction.”

Source: Gartner, Magic Quadrant for Supply Chain Planning System of Record, T. Payne, March 6, 2014
## 2015 Quintiq primary target markets

<table>
<thead>
<tr>
<th>Sector</th>
<th>Manufacturing</th>
<th>Natural resources</th>
<th>Logistics</th>
<th>Workforce</th>
<th>Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metals</td>
<td>Aluminum</td>
<td>• Oil &amp; Gas</td>
<td>Trucking</td>
<td>• Passenger</td>
<td>• Air Traffic</td>
</tr>
<tr>
<td></td>
<td>Steel</td>
<td>• Pipelines</td>
<td>Postal</td>
<td>• Freight</td>
<td>• Air Services</td>
</tr>
<tr>
<td></td>
<td>Copper</td>
<td>• Mining</td>
<td>Maritime</td>
<td>• Transport</td>
<td>• Bus Services</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>547 Targets</td>
<td>505 targets</td>
<td>611 targets</td>
<td>535 Targets</td>
<td>266 Targets</td>
<td>420 Targets</td>
</tr>
</tbody>
</table>

*All targets meet “large enterprise” criteria

*Estimates are Quintiq internal
Differentiators and barriers to entry

- **One platform for all planning needs**
  Strategic through day-of-operations

- **100%-fit, configurable architecture**
  All constraints considered; no coding required

- **KPI-based planning**
  Instant feedback and scenario comparisons

- **Record-breaking optimization**
  Not automated heuristics
Vehicle Routing Problem with Time Windows (VRPTW), a variation of an optimization benchmark created in 1959 by Dantzig and Ramser.

The challenge: Service 1,000 customers using a minimal number of vehicles traveling minimal distance.

The best known result (C1_10_7) prior to Quintiq was 97 vehicles with a total distance of 44,806.73 miles.

Quintiq was able to find a solution utilizing the optimal 97 vehicles, but with a total distance of only 43,453.92 miles.

The VRPTW has been studied since the 1970s and Quintiq achieved a result that researchers around the world have not been able to reach to date.

Quintiq’s commercial optimization technology which was used to solve this historic puzzle is the same software used by our customers in over 80 countries around the world on a daily basis to solve their own unique planning puzzles.
The Flexible Job Shop Scheduling Problem (FJSSP) is an extension of the classic Job Shop Scheduling Problem, which has been studied since the 1960s.

The challenge: Schedule a set of operations to be processed on a set of machines and order the operations so that total completion time is minimized.

The FJSSP represents a production environment where there is a restricted set of machines capable of processing a particular operation.

There have been 313 documented instances with up to 300 operations.

Quintiq holds 110 world records for flexible job shop scheduling.

Quintiq's commercial optimization technology, which was used to solve this historic puzzle, powers the software used by our customers in over 80 countries on a daily basis to solve their own unique planning puzzles.
Process sequence visibility
Logistics
Logistics planner
Differentiating with delivery: Top trends for 2014
Quintiq’s same-day delivery vision

**Strategy:**

1. Forecast orders based on historical patterns
2. Optimize delivery for forecasted orders
3. Real orders replace forecasted orders and provide customer suggestions for delivery times/delivery cost

Continuous optimization enables demand shaping and higher service:

Discounted/free delivery to customers who order early or accept suggested delivery windows
Dynamic pricing offered based on cost of delivery

Fig. 1. Account information - including delivery address - becomes available the moment a customer logs in or puts something in his or her shopping cart. Within seconds, the system generates a number of choices for different time windows with related costs/discounts.
Workforce
Shift assignments to meet demand
It is all about VALUE!

<table>
<thead>
<tr>
<th>Company</th>
<th>Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>KLM</td>
<td>- Delivery performance improved from 98% to 99.5%</td>
</tr>
<tr>
<td>LSG Sky Chefs</td>
<td>- Trucks reduced by 15%</td>
</tr>
<tr>
<td>DHL Express</td>
<td>- 15% reduction in mileage</td>
</tr>
<tr>
<td>ANWB</td>
<td>- 4%-7% Increased mechanic utilization improved by 4 to 7%.</td>
</tr>
<tr>
<td>DB Schenker</td>
<td>- ROI in less than a year</td>
</tr>
<tr>
<td>P&amp;O Ferrymasters</td>
<td>- Improved planer effectiveness by 250%</td>
</tr>
<tr>
<td>ASSAN Aluminum</td>
<td>- Increased output by 10%</td>
</tr>
<tr>
<td>ALU NORF</td>
<td>- Delivery performance improved from 40% to 90%.</td>
</tr>
<tr>
<td>W&amp;W</td>
<td>- 15% reduction in mileage</td>
</tr>
<tr>
<td>WALLENIUS WILHELMSEN LOGISTICS</td>
<td>- Improved vessel space utilization by 5%.</td>
</tr>
<tr>
<td>Ewals Cargo Care</td>
<td>- 12.5% savings on operational costs.</td>
</tr>
<tr>
<td></td>
<td>- A 3% gain in capacity through more efficient use of its vehicles and drivers.</td>
</tr>
<tr>
<td></td>
<td>- Vans reduced by 35%.</td>
</tr>
<tr>
<td></td>
<td>- Significant reduction of fuel consumption</td>
</tr>
<tr>
<td></td>
<td>- Reduced CO2 emissions</td>
</tr>
<tr>
<td></td>
<td>- Planning effort reduced by 75% (3 hrs / day).</td>
</tr>
<tr>
<td></td>
<td>- Return on Investment (ROI) within 1 year.</td>
</tr>
<tr>
<td></td>
<td>- 4% - 7% Increased mechanic utilization improved by 4 to 7%.</td>
</tr>
<tr>
<td></td>
<td>- 8% reduction in tour duration</td>
</tr>
<tr>
<td></td>
<td>- Return on investment (ROI) within 1 year.</td>
</tr>
<tr>
<td></td>
<td>- Improved delivery performance by 20%.</td>
</tr>
<tr>
<td></td>
<td>- Yields have improved significantly as no additional raw material inputs have been required to increase output.</td>
</tr>
<tr>
<td></td>
<td>- Stock reduced by 33%.</td>
</tr>
<tr>
<td></td>
<td>- Output increased by 44%.</td>
</tr>
<tr>
<td></td>
<td>- Improved delivery performance by 20%.</td>
</tr>
<tr>
<td></td>
<td>- Yields have improved significantly as no additional raw material inputs have been required to increase output.</td>
</tr>
<tr>
<td></td>
<td>- Improved delivery performance by 20%.</td>
</tr>
<tr>
<td></td>
<td>- Yields have improved significantly as no additional raw material inputs have been required to increase output.</td>
</tr>
<tr>
<td></td>
<td>- Stock reduced by 33%.</td>
</tr>
<tr>
<td></td>
<td>- Output increased by 44%.</td>
</tr>
<tr>
<td></td>
<td>- Improved delivery performance by 20%.</td>
</tr>
<tr>
<td></td>
<td>- Yields have improved significantly as no additional raw material inputs have been required to increase output.</td>
</tr>
<tr>
<td></td>
<td>- Stock reduced by 33%.</td>
</tr>
<tr>
<td></td>
<td>- Output increased by 44%.</td>
</tr>
</tbody>
</table>
... and even more VALUE!

- **NOVELIS**
  - Increased inventory turns by 10%.
  - Time required to produce an unconstrained plan was reduced by 75%.
  - 45% increase in on-time production.
  - Running more than 90% of products on time.
  - 20% improvement in inventory turns.

- **sapa**
  - Increased production.
  - Reduced inventory (20% lower WIP)
  - Improved customer service (raising rate of weekly promised deliveries by more than 30%)

- **AkzoNobel**
  - Improved capacity utilization and less temps required.
  - Reduced SLOB by 20%
  - Reduced planning effort
  - Reduced inventory by about 5%
  - Increased sales value expected by at least 1%

- **VLISCO**
  - Lead time reduced by 50%.
  - Work-in-progress reduced by 18%.
  - Delivery performance improved from 50-60% to 80-90%.

- **ALCOA**
  - Efficiency in soaking pit improved by 4%
  - Hot mill efficiency increased by 2%.

- **Aurubis**
  - WIP levels reduced by 15%.
  - Delivery reliability improved by 20%.
  - Production lead times shortened by several days.

- **transavia.com**
  - ROI within 2 months
  - Improved interval usage by 10%.
“When Henry Ford made cheap, reliable cars people said, *Nah, what's wrong with a horse?*”

- Elon Musk
Breakthrough transformation

Inspiration
- Design
- Mock-up
- Simulate
- Collaborate

User Experience

Manufacturing
- Process design
- Assembly instructions
- Ergonomics
- Staffing
- Production plan

Supply Chain
- Make vs. buy
- Sourcing plan
- Inventory management

Channels
- Marketing
- Sales
- Forecast
- Logistics
- Delivery

Ecosystem
- Design
- Test
- Installation instruction
- Cost modelling
- Installation planning

Service
- Staffing scheduling
- Routing
- Instruction
Breakthrough transformation

Inspiration
Design
Mock-up
Simulate
Collaborate

User Experience

Manufacturing
Process design
Assembly instructions
Ergonomics
Staffing
Production plan

Supply Chain
Make vs. buy
Sourcing plan
Inventory management

Channels
Marketing
Sales
Forecast
Logistics
Delivery

Ecosystem
Design
Test
Installation instruction
Cost modelling
Installation planning

Service
Staffing scheduling
Routing
Instruction

Dashboard | Customer Feedback
Questions?