New Industrial Applications Empowered by SAP HANA

Henry Cook, Principal Consultant, SAP Global Centre of Excellence
Examples of New Applications Enabled by HANA

- Cost of Quality
- Electricity Fraud Detection
- CAR – Customer Activity Repository
- Affinity Analysis
- Customer Engagement Intelligence
- Unified Forecasting
- Liquidity Risk Management
- Fraud Management
- Finance and Risk Analytics

Cloud Enabled
- CEI: Audience Discovery and Targeting
- CEI: Customer Value Intelligence (CVI)
- CEI: Social Contact Intelligence
- Audit Management
- Fraud Management
- Liquidity Risk Management
- Demand Signal Management (DSiM)
- Supply Chain Info Center
- SAP Product Stewardship Network
- SAP Precision Marketing
- Financial Services Network
HANA Enables New Applications, New Approaches

• Unique Design
• Fully Exploits Modern CPU Features
  • Memory Cache’s
  • Vector Instructions
  • Multiple-Core
  • In-memory data
• Speedup of 1,000’s of times
• Allows Radical Simplification
  • No aggregates / Indexes
• OLTP + OLAP brought together
• A complete processing platform

• Simplicity results in
  • Higher Productivity
    • Users
    • Developers
  • Greater Agility
  • Lower Cost
Re-think Data Management for Real-time Business
Eliminate redundant data copies, materialization and models

A Common Database Approach for OLTP and OLAP Using an In-Memory Column Database
Hasso Plattner

**Transactions + Analysis + Acceleration processes separated**

- 3 copies of data in different data models
- Inherent data latency
- Poor innovation leading to wastage

**One atomic copy of data for Transactions + Analysis, all in Memory**

- Eliminate unnecessary complexity and latency
- Less hardware to manage
- Accelerate through innovation and simplification
Just Some of the Independent Applications Enabled by HANA
Warwick Analytics: Cost of Poor Quality

Business case – Cost of Poor Quality (COPQ)

Cost of Poor Quality (COPQ) is one of the largest cost items for manufacturing, estimated at 15% to 30% of revenue *

- $72Bn pa warranty-related (c. 4% revenue)
- Internal costs (right first time and yields) $950Bn lowest estimate**
- Excludes non-warranty service e.g. maintenance and PLM costs

* International Journal of Engineering Dec-12 average was 20%, Wang, Bhote, Juran and Crosby cite up to 40% in some cases
** Warranty costs apply to certain industries, internal costs apply to all manufacturing industries, globally $6.8 Trillion market

Manufacturing Priorities

Improve quality/right first time
Warranty cost reduction
Avoid recalls/protect brand

Manufacturing Challenges

Increasing complexity of products and processes
Fault-finding as a manual hypothetical process
Data issues – both overload and quality

Warranty Related Spending

- Automotive
- Building trade
- Computers/electronics
- Other*

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Warwick Analytics: The Company

Background

- Warwick Analytics’ disruptive patented technology stems from over a decade of academic research in the US and UK originating from six-sigma failures in complex manufacturing.

- Initial deployments in consumer electronics, the automotive and aerospace sectors and the provision of healthcare services achieved spectacular results with challenging problems (such as No Fault Found).

The Technology

Core technology is rapid root cause analysis (RCA) for faults, i.e. QA rejections and also warranty/service failures:

- Zeros in on fault cause regions without knowing what the fault is
- Detects fault region in either the manufacturing process or the design even where No Fault Found (NFF)
- Non statistical, non-hypothesis
- Can deal with probabilistic as well as deterministic
Why HANA for Warwick Analytics

- Warranty and Diagnostic Data Analysis
- WA solution is computationally intensive as well as big data
  - Quasi-real-time with HANA
  - Algorithms optimised for HANA
  - Use case time reduced from 36 hours to 35 seconds!
  - Reduces load times
- Roadmap based on HANA capabilities
  - Native algorithm (further speed/performance)
  - R integration (statistical reporting on our non-statistical rules)
  - Other features on roadmap – streaming and parallelism/ distributed architecture
- Cloud deployment pathway (HANA One) moving to on-premise
- Enhanced ‘data warehouse’ – Early Warning and Prevention System
Root Cause Analysis Solver Engine (RCASE)
Warwick Analytics “RCASE “analyses disparate data to rapidly zero on fault, and recommend best-fix
Economic Benefits

Increased Yield and Reduced Cost of Manufacture

- Increase yield of specific/multiple product lines
- Reduce scrap, wastage and increase profitability
- Free up resources

Reduced Maintenance/Service Costs

- Reduce time to resolve problems
- Validate genuine warranty costs
- Prevent warranty costs and recalls with predictive maintenance

Indicative Savings - EWAP

Better Lifecycle: Quicker Launch, Costs, Safety & Environment

The “Bathtub Curve”
Example Business Case: Cost of Poor Quality (COPQ)

- Commercial Validation and Return on Investment for Customer
  - Assess COPQ and data availability
  - POC will validate technically and commercially
  - Theoretical savings of up to 1%-5% of sales full EWAP
  - E.g. Automotive €70Bn sales and €5Bn profits. 1% is €0.7Bn (10% profit)
- Return on Investment for Customer
  - $900m saving per annum
  - Quick payback $

- Solution Specification
  - HANA
  - 20Mb per vehicle 5-yr lifecycle, 1.5m vehicles p.a. = 30Tb for 5-years’ worth of data
  - Other specs: Streaming software
  - Professional Services
    - TBD
Energy Fraud Detection
HANA Advantage for High Speed Processing

- Pattern detection execution time
- 4 million customers
- 5 years of data = 1h 19m
- SAP HANA = 4.24 seconds
- Ratio = 1,123 times faster
Revenue Assurance Global Challenge

NTL reduction drivers

1. Citizens want lower rates without NTL
2. Governments want energy efficiency
3. Shareholders want more ROI

External conditions

- Global demand increase
- Higher energy costs
- Global warming

Graph showing energy consumption, non-technical loss, and revenue increase over time.
Fraud features

Average consumption 50% lower than compared to similar customers

- Average consumption 50% lower than compared to similar customers

Customer historical consumption
Peer historical consumption

Average consumption below peers
Genetic Algorithm Process: Recombination through Crossover and Mutation

Portfolio: Automatic Pattern recognition
Results

• 2009, 4 Million customers
• 100.13% of energy recovery increase after 24 months
• Additional invoice of 150 GWh

EBITDA: ↑ USD 40 million per year
SAP Fraud Management for Banking

Anti-Money Laundering & Anti-Financial Crime

Detection, Investigation and Case Management by SAP
Financial Crime Causes Losses Running into Billions

Total losses worldwide
$ 3,500,000,000,000

Total losses Germany
€ 3,700,000,000

5% of global GDP

Total losses in your financial institution

REPORT TO THE NATIONS ON OCCUPATIONAL FRAUD AND ABUSE
2012, ACFE
Challenge: Protection of your Financial Resources

Fast changing and new Fraud Patterns with increasing damage
- Phishing in general
- Tan Fraud, newly also via mTan
- Payment Fraud
- Internal Fraud / Optimization of Provisions
- New Patterns, currently UNKNOWN!

Increasing regulatory Requirements
- Tax Law
- AML & Countering Terrorist Financing
- Detection and Indication of Fraud Cases
- ...
Fraud management challenges

- Revenue loss related to fraud
- Cost /results ratio of dealing with fraud

- Manual, inefficient, slow and inaccurate process
- Too many false positives
- Not scalable /adaptable

- Volume of transactions
- Complex and evolving fraud patterns
- Fraud investigation impact on the business

Reports annually
CFO
Communicates
Investors, Customers

Fraud Investigation

Fraud Detection

Operations Finance Compliance Internal Controls Risk Management Internal Audit

MISSION
Sales Finance Procurement
SAP Fraud Management for Banking

Value proposition

Paradigm Shift

Improved fraud management on real-time analytics:
- From reactive to proactive
- Reduction of false positives

Cost Reduction

Leverage platform & simplify landscape, reduce project risk and reduce total cost of ownership

Up to 30% savings

Compliance

Increasingly demanding regulatory requirements to perform daily intraday financial crime analysis

Compliance out of the Box

15% less false positives = $$
SAP Fraud Management powered by SAP HANA
Achieve effective and efficient fraud management

Monitor performance through dashboards, reports and KPI’s to improve detection efficiency

Manage alert workload with efficient evaluation, qualification and remediation of fraud

Execute mass and real-time detection and stop suspicious business transactions

Prepare data and enable /build detection rules

Define fraud detection strategies and optimize using calibration

(*) Can be performed with SAP HANA studio, SAP InfiniteInsight (optional) or 3rd-party tools
# The Financial Crime Risk Management Platform

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*KYC/CDD – Know Your Customer / Customer Due Diligence*
SAP Fraud Management
The foundation – SAP HANA

SAP Fraud Management

SAP InfinitelInsight

SAP HANA

Information Composer & Modeling Studio
Planning and Calculation Engine
Real-time replication services
Predictive Analysis Libraries
Business Function Libraries
In-memory database
Text Search
R & Hadoop integration
Data services

SAP Business Suite
Third-party Systems
In-Memory Technology Is the Enabler

Holistic approach

Faster detection

Greater accuracy

Proof of Concept  Tier 1 Bank

10 million customers
20 million accounts
1 billion transactions

In-memory system

Standard system

>40 hours

1,200x faster

Max. 2 minutes
Enable Detection Rules
Leverage pre-defined content* and build new rules

High-performance processing of very large data volumes

Key Benefits

Quick start core fraud detection schemes and test them on your data leveraging pre-delivered rules

Easily build detection rules for other known fraud patterns using the simplified rules creation feature

Option to extend detection rules by identifying unknown patterns in historical data using predictive analytics

(*) Content for AML and AFC will be provided by a partner
Pattern analysis
Pattern analysis - embedded or highly integrated in SAP HANA

Big Data

- Terabytes analyzed at the speed of thought
- Compress large data sets into memory
- Integrate insights from Hadoop analysis

Text Search and Mining

- Native full text search
- Graphical search modeling
- UI toolkit

Predictive Analytics

- Unleash the potential of Big Data
- Intuitively design and visualize complex predictive models
- Bring predictive analytics to everyone in the business
Comprehensive alert management
Leverage advanced inquiry and analysis features

Full insight into all relevant information at the fingertip

Key Benefits

Improved accuracy of fraud detection with reduced false positives and negative detections

Availability of comprehensive and up-to-date information in investigation avoids double work

Increase investigation ROI by focusing on high score / high value cases
SAP Financial Crime Risk Management and beyond

1 System For all Use Case

Fast in-memory data management

Bidirectional communication

Open and flexible data model

SAP FM for Banking:
- Fraud Detection and Investigation
- Money Laundering
- KYC/CDD/EDD
- Sanctions/Terrorism Lists
- Flexible, easy Analysis & Methods

SAP HANA

Real-Time and Near-Time Analysis

Supporting a new Paradigm
- Losses could be reduced and avoided
- Criminal Activities could be detect faster
- New Patterns could be detected and analysed more effectively

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Outlook

Fraud Management

- Fraud Management
- Customer Involvement
  - Quarterly releases
  - Options for configuring content
  - Chance to influence development!

Financial Crime Risk Management Platform

- Fraud Management
  - Int. / Ext. Fraud
  - AML & CTF
  - Operat. Compliance

Audit Management

- PLAN
- PREP
- EXEC
- REP.
- F.-UP

GRC and Financial Crime Risk Management Platform

Governance, Risk and Compliance

- GRC Banking
  - Access Control
  - Process Control
  - Op. Risk

HANA

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What if…?

All your multichannel sales activity shared a common platform understood every transaction made and that could associate each sale with a unique consumer…

... and What if …?

The same platform knew exactly how much inventory you had, where you had it…

... and What if …?

All your planning and execution applications; and Management Information - sat on the same platform, exposed to all this wealth of data?

...and what if that platform could segment customers and sales transactions anyway you wanted – by attributes, statistics, predictive analysis, etc.?

...and how much it cost

... and that platform knew all this right now, in real-time, as it was happening; not tomorrow, or the day after …
SAP CAR collects consumer and stock data from all channels in real time to support all lines of business....
SAP Customer Activity Repository – Building Blocks

SAP Promotion Management
SAP Assortment Planning
SAP Store Allocation Planning
SAP Planning for Retail

SAP Customer Activity Repository (CAR)

SAP HANA Live - Analytics

SAP HANA (in-memory computing)

- POS Data Transfer & Audit
- Unified Demand Forecast
- Inventory Visibility
- Multichannel sales transactions
- Demand Data Foundation
- SAP On Shelf Availability Algorithms

SAP Retail
- Master Data
- Sales Documents
- Inventory

Point of Sale
- Sales Transactions
- Customer Data

SAP CRM

SAP Affinity Insight
SAP Customer Engagement Intelligence
SAP Business Warehouse
Hybris & CEC Interaction Centre

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POS Data Transfer & Audit

The Customer Activity Repository incorporates an extended version of the software component for POS Data Management. Nonetheless SAP POS Data Management remains an independently sellable solution.

Solution Scope

- Functional scope contained in CAR is essentially identical to POS Data Management
- POS Data Transfer & Audit within CAR does not require BW/BI Content anymore

Migration strategy for POS DM on BW/HANA

- SAP will provide a migration strategy for POS DM 1.0 deployed on BW/HANA customers
- Reports to migrate POS DM 1.0 TLOG and non-TLOG data will be provided
- Migration from “traditional” POS DM to CAR will be supported as well
Inventory Visibility

The Customer Activity Repository offers real time visibility into current stock situation in the stores by taking ERP stock in unrestricted use and unprocessed sales into account.

Solution Scope

- Inventory information is replicated from ERP into CAR via SLT (SAP Landscape Transformation)
- This inventory information in CAR is combined with unprocessed sales transactions from POS DM to derive current stock in stores
- Intra company code stock in transit is displayed to inform the user about deliveries on their way to the store
- Additionally inventory valuation at both, cost and retail sales are calculated
- Virtual Data Model for inventory data

<table>
<thead>
<tr>
<th>Calculation: Unrestricted Use – unprocessed sales</th>
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<td>Display: Intra company code stock in transit</td>
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<td>Calculation: Valuation actual stock at cost</td>
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<td>Calculation: Valuation actual stock at retail</td>
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SAP ERP

Customer Activity Repository

Inventory VDM

Unrestricted Use

Intra company stock in transit

Valuation at cost and retail
Multichannel Sales Transactions

The Customer Activity Repository captures sales transactions across multiple channels by introducing a new multichannel data model and provides a harmonized view of the customer across all channels. This enables retailers to get a 360° view of the customer and offers SAP CEI and SAP 360 Customer access to cross channel transactional data.

Solution Scope

- Sales Order related data are replicated from ERP into CAR via SLT (SAP Landscape Transformation)
- Customer Identification with CRM loyalty card number (custom implementations possible via BAdIs)
- New concept “Order Channel” defines the channel where the sale took place
- Availability of POS, sales order, and return transactions at one place enables 360° view of the customer
- CAR offers SAP CEI access to Cross Channel Transactional Data
- CAR offers SAP 360 Customer Interaction Center access to Cross Channel Transactional Data
On Shelf Availability Algorithms

The on-shelf availability algorithms can be used to detect and visualize out-of-shelf situations in the stores when they happen in real time and take immediate actions to prevent further lost sales.

Solution Scope

- The algorithm sits on HANA, while it accessing the new TLOGF, leveraging in-memory computing power to execute millions of queries
- POS transactions are analyzed in real time to detect products that may have on-shelf availability issues (out-of-shelf or out of stock)
- Provides transparency of on-shelf availability situations for regular and promotional products
- Current stock at cost/retail is calculated
Demand Data Foundation

The Demand Data Foundation (DDF) is the platform and data model defined to support SAP Retail applications. DDF provides flexibility to integration with SAP Suite or any other master data system. SAP HANA is utilized to manage, aggregate, and filter data in a faster way than previously possible.

Solution Scope

- DDF consists of a standard data model to support planning applications with integration points
- A flexible time series framework allows for fast access to pricing, and forecasting data over time
- DDF provide the technical mechanisms for easy data access through HANA Views
- Forecasting with the Unified Demand Forecast is called through DDF. Results are then aggregated and returned through DDF.
Unified Demand Forecast (UDF) is the new generation of forecasting for SAP Retail applications. UDF combines the strengths of the forecast capabilities from SAP Promotion Management for Retail and SAP Forecasting and Replenishment while leveraging the speed of SAP HANA.

**Solution Scope**

- UDF models causal based factors to understand true customer demand and then use this understanding to forecast future unit sales
- Bayesian and hierarchical priors aggregate data to fill the gaps of the understanding in demand history
- Forecasts are generated at product, location, channel, day with a flexible multichannel data model
- UDF supports what-if scenarios or long-term forecasts
- Through HANA views, the decomposed unit sales can be used for advanced analytics
Audience, Discovery and Targeting

Optimize target groups for Omni-channel campaigns

- High performance customer segmentation on Big Data
- Great visualization & exploration tools to slice and dice data on the fly
- Optimize target groups leveraging predictive analytics
- Personalization of messages for any channel
Affinity Insight*

Functionality

- Affinity Analysis 2.0 is a tool for flexible sales analysis on market basket level.
- Arbitrary combinations of hierarchy nodes in product and store hierarchy
- Computation of many different metrics
- Visualization as table, heat map or scatter plot

Example metrics

- Number of market baskets containing two specific products or product groups
- Likelihood customers to purchase a certain product if they already bought another one
- Average multiplicity of a SKU in a market basket
- Market basket values attached to specific product groups or SKUs

*Released to customers as a “Repeatable Custom Solution” since January 2013
Customer Engagement Intelligence powered by SAP HANA
Product Recommendation Intelligence

Making context aware smart product recommendations in real-time during customer conversation using predictive models relevant to the consumer and verified against his peer group supporting his objective in alignment with his consumer decision stage

Basing input for the recommendations on consumer’s purchase history from all channels pre-structured (business event) click stream data

Learn from recommendation history and consumer reaction
SAP CAR for Real-Time Stock Visibility

1.2 million transactions per day, across 16,000 tills in 3,100 retail stores

The Advantage Card loyalty programme sits on SAP’s CRM platform, and supports 17 million active card holders

Real-time view of 25,000 retail lines across 2,500 stores
Finance: Liquidity Risk Management
Funding Liquidity Risk
Internal Risk Management

- Risk that the firm will not be able to meet efficiently both expected and unexpected current and future cash flow and collateral needs*

- A first step of a funding liquidity risk calculation consists in calculating the Forward Liquidity Exposure in terms of the Legal Cash Flow Gap.

- In a second step hypothetical cash flows should be taken into account as well. These simulations should be driven by market development, customer behavior and bank strategy to generate a more realistic Economic Cash Flow Gap.

- If liquidity gaps are detected when analyzing the economic cash flow gap, a third step consists in calculating the Counterbalancing Capacity. All assets like bonds or committed lines are used to resolve potential liquidity bottlenecks.

* Basel Committee on Banking Supervision – BCBS 144 Principles for Sound Liquidity Risk Management and Supervision
Market Liquidity Risk
Internal Risk Management

• Risk that a firm **cannot easily offset or eliminate a position at the market price** because of inadequate market depth or market disruption*.

• This risk could come up in conjunction with OTC trades or when solving liquidity gaps with the release of huge positions exceeding usual trading volumes.

• Market Liquidity Risk is **currently not in focus**.

* Basel Committee on Banking Supervision – BCBS 144 Principles for Sound Liquidity Risk Management and Supervision
SAP LRM on HANA goes beyond limits of current risk management applications

“Proposed intraday liquidity reports ‘not feasible’, banks say. Basel Committee’s proposed new reports on daily liquidity needs would involve "thousands upon thousands" of data points.

Risk Magazine, Sept 2012

290M Cash Flows

>60 minutes

4000x faster
Aggregated & Selected

<1 seconds

Standard System

In-Memory System

Latest result: 1.8 billion cashflows in 2.4 seconds
High Performance Application Architecture
Liquidity Risk Management

- BI Tools
- Liquidity Risk Management
  - SAP HANA
  - Non SAP Cash Flow Pool (optional)
  - SAP Bank Analyzer
  - Operational Systems (SAP and non-SAP)
    - Loans
    - Deposits
    - Securities
    - Derivatives

- Comprehensive Liquidity Risk Reporting
- High Performance Stressing and Cash Flow Aggregation and Key Figure Calculations
- Generation and Upload of Contractual Cash Flows for Current Business
- Operational Contract Management

LRM has huge impact on end to end process performance and quality of results

Enormous acceleration of single calculation steps:
300 Mio Cash Flows

60+ minutes

class. database

4000x faster

1 second
HANA

Huge improvement of end to end processes:

End to End: 48 hours

PoC results with real data

From 2 days down to 10 min
50x faster

No physical aggregates needed

batch  Interactive (on HANA)
Finance:
Finance and Risk Reporting
Vision: All Finance & Risk Applications running on Real-Time F&R Data Platform

Solution Details
- Real-Time F&R Platform for all SAP F&R Applications
- F&R Applications are optimized for HANA
- Open for deployment of partner and customer applications and BI tools

Solution Benefits
- Consolidate Finance & Risk application landscape on one data platform
- Standardization of F&R data based on industry reference data model
- SAP applications optimized for HANA
- Standardization of data operations (read/write)
- Real-time data processing and BI
- Leverage of in-Memory technology
  - Real-time data processing, less redundancies, reduced administration costs, easy to extend

Download Reference Architecture
SAP Banking Finance & Risk Platform
Open integrated Finance and Risk Platform*

SAP HANA
- Real-time In-Memory data
- Hot & Warm data
- Calculation engine

Logical Data Model
Finance & Risk Views

Sybase IQ
- High performance (up to 192PB)
- Cold Data
- User Defined Functions

Physical Data Model
Finance and Risk Data

Power Designer

ETL: Data Services – Event Stream Processing – Replication Server

Transaction Systems
SAP Deposits
SAP Loans
Bonds

Middle Office
LMS on HANA

Front Office - Input Streams
Summit, Murex, Calypso, ...

3rd party
Engines/Libraries (e.g. Fincad, Numerix)

DB Layer

*currently planned - subject to change
Finance & Risk Analytics for new BA customers
Bank Analyzer on HANA – Embedded Solution for Analytics*

Solution Details
• Finance & Risk Analytics is embedded in BA (on HANA)
• BA is leading modelling environment. PowerDesigner is used to synchronize BA model with HANA model and to build customer specific views.
• Data Model is physically deployed in SAP HANA
• Finance & Risk Analytics is the information basis for BI leveraging HANA Interfaces (SQL, MDX, OData)
• Usage of SAP BW optional

Solution Benefits
• Real-time availability of Bank Analyzer data for Analytical purposes without replication
• BI on complete set of information (granular level)
• Consumption views for direct usage in BI and flexibilty to create customer specific views
• Leverage advantages of In-Memory technology
  • Real-time data processing less redundancies, reduced administration costs

* Pre-Condition: Bank Analyzer runs on HANA
Business Scenarios based on HANA
Accelerate and improve Business Processes

Business / IT Scenario:
- Risk Management including ad hoc simulation capabilities
- Consolidation of data and reporting

Value Proposition
- Accelerated Reporting (from 4 hours to 4 min.)
- Consolidation of data and reporting
- Less Manual effort
- Consolidated IT landscape

Business / IT Scenario:
- Customer Analytics based on different data sources
- Faster Access to relevant information

Value Proposition
- Improved Customer Service
- Acquire and retain customers
- Increase Profitability

Business / IT Scenario:
- Obtain Customer Credit Information
- Ensure Internal and external regulatory requirements

Value Proposition
- Ensure Compliance
- Improved Management Reporting
- Risk Transparency
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Tomorrow’s Connected Car Will Find You A Free Cup of Coffee, And Then Some

http://www.news-sap.com/connectedcars/?source=email-emea-sapflash-newsletter-20140428&campaigncode=&lf1=642825271d42695326669f21127111
Usage Based Insurance (UBI) Recognised as a major shift in the marketplace

**Business Scenario**
- 30% of insurance likely to become telematics based
- Annual Renewal => Monthly Billing based on use
- Huge Data Volumes / Real Time collection/analysis
- Dynamic Pricing / Tariff Offer based on Predictive Analytics (UBI “Scoring”)
- Insurer as data aggregator – onward sale of data

Note: SAP considering partnership relationship with Baseline Technologies (Canada)

**Customer Profile**
- All major P&C insurers in EMEA
- UK / Nordics markets in rollout; France / Italy following
- Initial offer to young drivers, but will rapidly become a mainstream offer by 2018

**Value Proposition**
- 40% loss ratio reduction (safer driving / risks)
- 75% expense ratio reduction (cloud based)
- High retention (ongoing relationship)
- Upward / onward selling based on “insurer as data aggregator”
SAP Fraud Management powered by SAP HANA
Achieve effective and efficient fraud management

Monitor key performance indicators and create management reports

Manage alert workload with efficient evaluation, qualification and remediation of fraud

Analyze fraud patterns and define detection rules and models

Define fraud detection strategy through simulation and calibration

Execute mass and real-time detection and stop suspicious business transactions

(*) Can be performed with SAP HANA studio, SAP Predictive Analysis (option) or 3rd-party tools
Proof-of-Concept: Fortune 500 Insurance Company in the US
SAP Fraud Management for Insurance

About the customer
- A Fortune 500 insurance company, with assets of more than $100 billion, has a presence in the United States and Japan.

Business Problem
- Significant amount of revenue is lost due to sales fraud committed by agents and by customers filing in illegitimate claims.
- Company prides itself in rapid response to claims and wants to cut frauds without compromising speed of claims response and customer service.

Proof of Concept
- Set up SAP Fraud Management for Insurance prototype based on customer specific data model and customer specific fraud detection methods

Proof of Concept - Results
- Identification of unknown potential fraud cases
- Increased insights into unknown fraud patterns
- Real time detection across >180 billion insurance policies in less than 10 seconds
- Realize PoC within 3 weeks from first meeting until presentation of results life within SAP Fraud Management for Insurance

Detection of Claim Fraud
- > 180,000,000 Insurance Policies
- > 75,000,000 Insurance Claims
- appr. 1,5 Minutes
Online Fraud Detection time

Detection of Sales Fraud
- > 180,000,000 Insurance Policies
- > 500,000 Agent Records
- Less than 10 Seconds
Online Fraud Detection time
More Effective Management Information
Example: Generali, Italy

SAP HANA to help Generali to analyse very large volumes of data in a short time frame, in key areas including agent commission and collections & disbursements.

This capability can be deployed in many different management information scenarios, these are just examples.

Consolidation of MIS data stores would be another natural usage.

Business Challenges
- General Reporting
- Reduce error rate on commissions paid to agents (through increased analytics capabilities)
- Comply with the batch window to load data in DW as volumes were expected to steeply increase.
- Simplify and speed up free format analysis on collection and disbursement data

Benefits
- Improved overall control on collection and disbursement data
- Increased efficiency in analyzing large quantities of information in the industrial accounting space
- Reduce TCO, eliminating unnecessary duplication of systems and data
- More and easier information for less cost
Healthcare
Predictive Genome Analytics

Business Scenario

- Healthcare Provider
- Using genomic data to improve customer service and accuracy of recommended treatment

Issues

- Wanting to offer ‘personalised medicine’
- Not just diagnosed treatment, but best treatment / most suitable drug for the particular cancer that the customer is suffering from
- Extended time for diagnosis
- Cost of lengthy process

Value Proposition

- Personalize diagnosis, matching most effective treatment / drug to their specific circumstance
- Diagnosis in single visit
  - Reduce cost for healthcare provider
  - Reduce wait time / anxiety for patient
  - Drive up customer loyalty / recommendation through short, less stressful processes

One stop service for cancer genomic data analysis supporting personalized therapeutics

http://www.youtube.com/embed/U6dA41_ulxo/?autoplay=1&rel=0&feature=youtu.be