

Protecting the Food Chain with Electronic Tracability

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Agenda

- Traceability – the background for our approach
 - Why
- The general solution
 - How
 - Where

Traceability – our real life experiences

- Building a complete internal and chain traceability system for Nortura
- Leading the traceability team in Nortura during the nationwide e.coli crisis in 2006.
- Broad working and managing experiences from:
 - Logistics and supply chain management,
 - Research and development,
 - Value chain planning,
 - Production and warehouse management
 - Food safety and quality management

Traceability – some challenges

- Traceability is a kind of insurance.
- When something happens you need it fast.
- Traceability information must be 100% correct.
- In a crisis the pressure is very high;
 - Media sets the scene.
 - Authorities watching.
 - Specify and formulate questions on the fly.
 - Develop queries, accumulate and present information in very short time.

Traceability – more challenges

- Many actors enhance complexity.
- Production specialization enhance scope.
- Unstandardized business processes gives different information.
- Manual registration.
- Does your information systems contain 100% quality assured and verified information every time it is used?

Traceability – (what we believe is) the answer

- Get people away from registrations!
- ERP-systems are not traceability systems!
- You can't have chain traceability without internal traceability!
- Environment matters (temperature, cleaning, gasses)!
- Every actor in the chain must participate!
- Traceability information must reflect reality.

Traceability – (more of what we believe is) the answer

- Physical data collection (events that really happens)
- Using standards
- Multiple uses of information
 - Track and trace
 - Planning
 - Alarms
 - Logistics
 - Performance measuring
- Sharing information
 - Upstream and downstream
 - Others like consumers, innovators, authorities...

Imagine...

Imagine that in order to use a mobile phone every company have to buy simcards, mobile phones, put together antennas and readers, build masts, design, develop and manage sms-servers and phone systems, and to connect to each other companies have to write protocols, test connections and negotiate costs with everyone they want to connect to.

And if they want to do this at another location, they have to most of these activities once more.

Do you think that the mobile phone would have spread around the world in such an environment?

No, of course not. Today any person can buy any phone in any store (also on the web) any place in the world.

And why is that?

That is because someone already have built an infrastructure based on a world widely used standard (GSM) and offer this as a service.

What if...

So, now, imagine that you can put an electronic tag on every thing (i.e RFID-tag); like products, pallets, trays, tools, people, equipments, cars, bags and so on. And that you can use this to track, trace, innovate, sell, buy, manage, do inventory, check origin, tell a unique story, avoid fraud, secure delivery, monitor cold chains, warn about environmental issues, tell about the arrival of a lorry, reduce transportation, make peoples working conditions easier and reduce waste.

What inhibits companies to make use of such a technology?

Yes, you're right; you can't buy this as a turn-key ready-to-use solution in any store (also on the web) any place in the world.

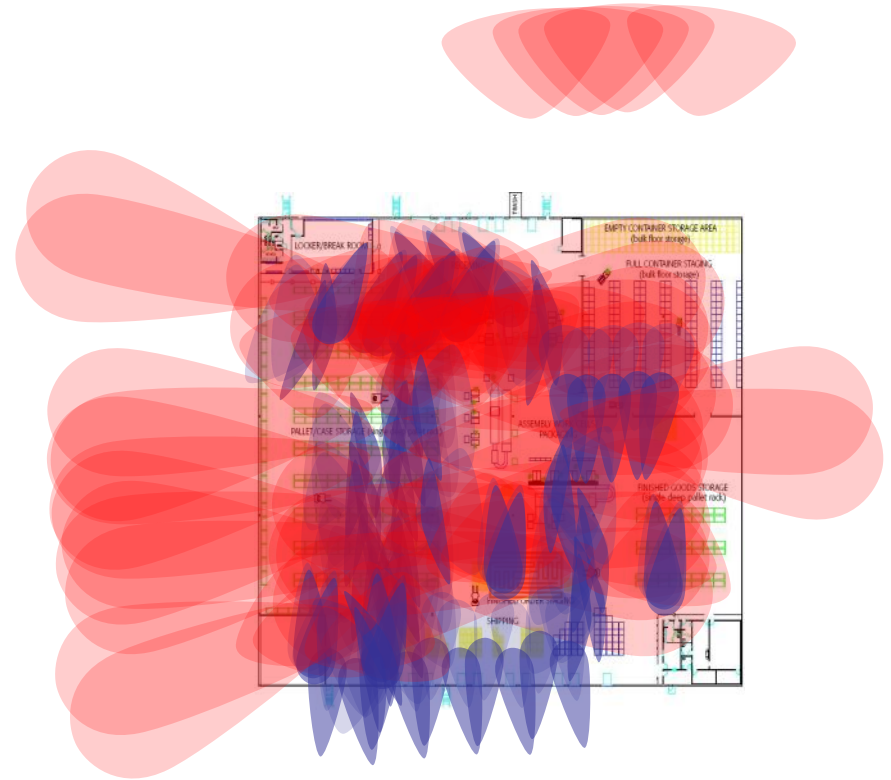
And why is that?

That is because someone have **not** built an infrastructure based on a world widely used standard and offer this as a service.

What would happen if someone did that?

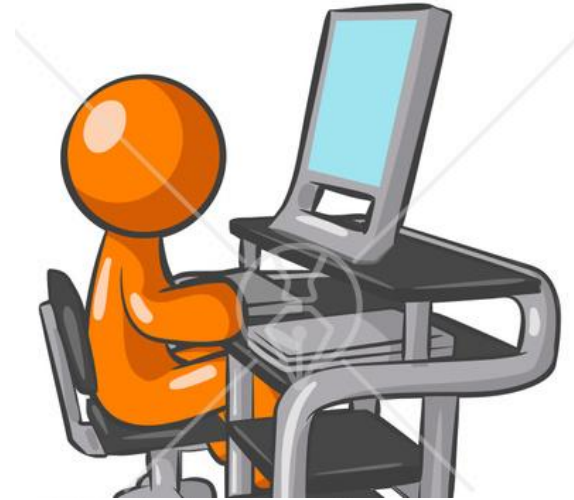
RFID Challenges

- Harsh industrial environments
- RF noise (both before and after RFID)
- Precision of data
- Lack of visual feedback



Managed RFID data capture

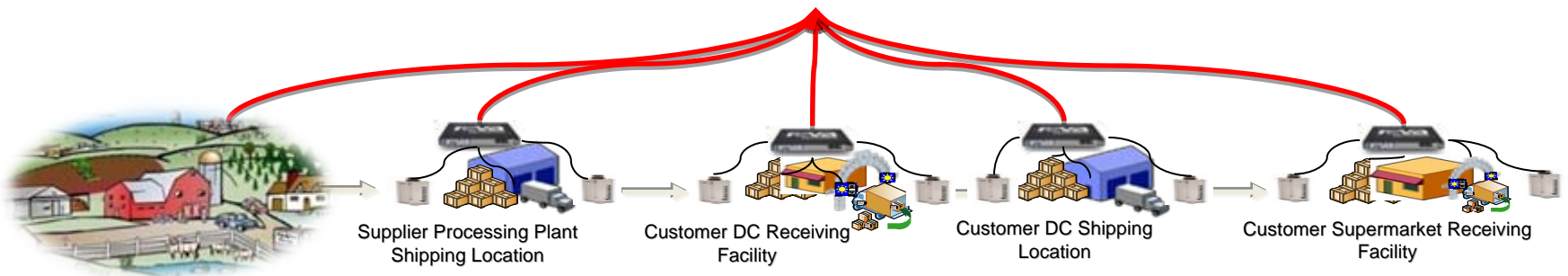
- Problemfree
- Secure
- No administration
- Plug&play scalability



Your supply chain talks to you

KNOWLEDGE

eventTime	recordTime	epc	action	bizStep	disposition	readPoint	bizLocation
		urn:epcglobal:hls:1#priceSales					
15-06-2009 21:46:34	15-06-2009 21:46:00	urn:bogart:bizstep:info		urn:epc:tag:sgtin-96:1.7071576.260018.395	Infostation	Butikk	OBSERVE
15-06-2009 18:07:21	15-06-2009 18:06:43	urn:bogart:bizstep:sale	urn:epcglobal:cbv:disp:sold	urn:epc:tag:sgtin-96:1.7071576.260018.236	Pos1	Butikk	OBSERVE 1250,00
15-06-2009 16:20:22	15-06-2009 16:18:28	urn:bogart:bizstep:info		urn:epc:tag:sgtin-96:1.7071576.260018.394	Infostation	Butikk	OBSERVE
15-06-2009 16:15:30	15-06-2009 16:15:12	urn:bogart:bizstep:info		urn:epc:tag:sgtin-96:1.7071576.260018.394	Infostation	Butikk	OBSERVE
15-06-2009 13:09:42	15-06-2009 13:07:42	urn:bogart:bizstep:info		urn:epc:tag:sgtin-96:1.7071576.260018.433	Infostation	Butikk	OBSERVE
		urn:epcglobal:cbv:disp:sold	Pos1	Butikk	900,00		



EPCIS

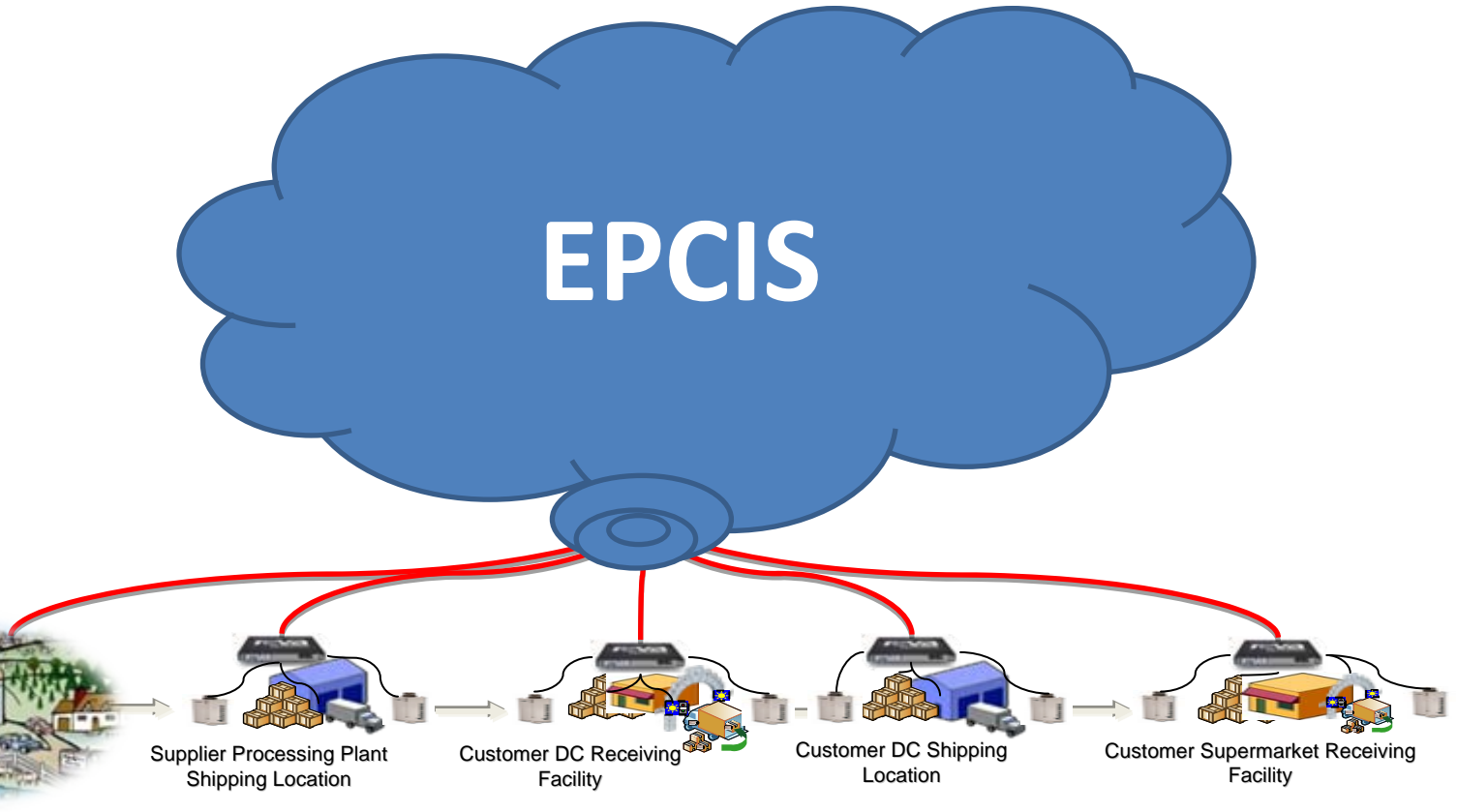


Supplier Processing Plant
Shipping Location

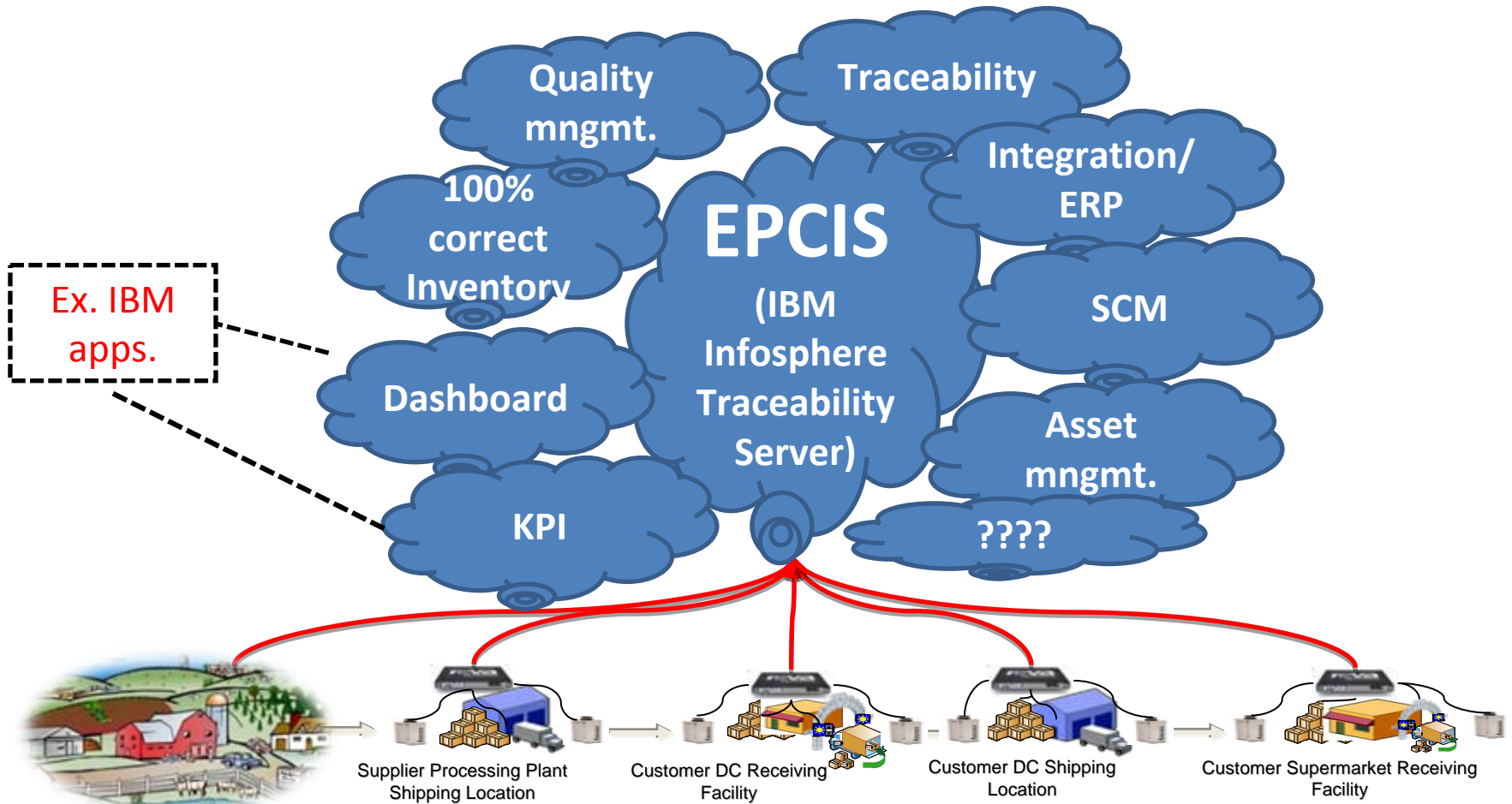
Customer DC Receiving
Facility

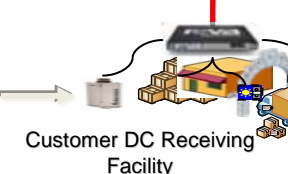
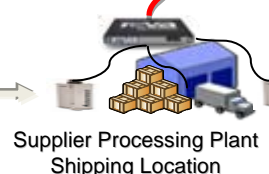
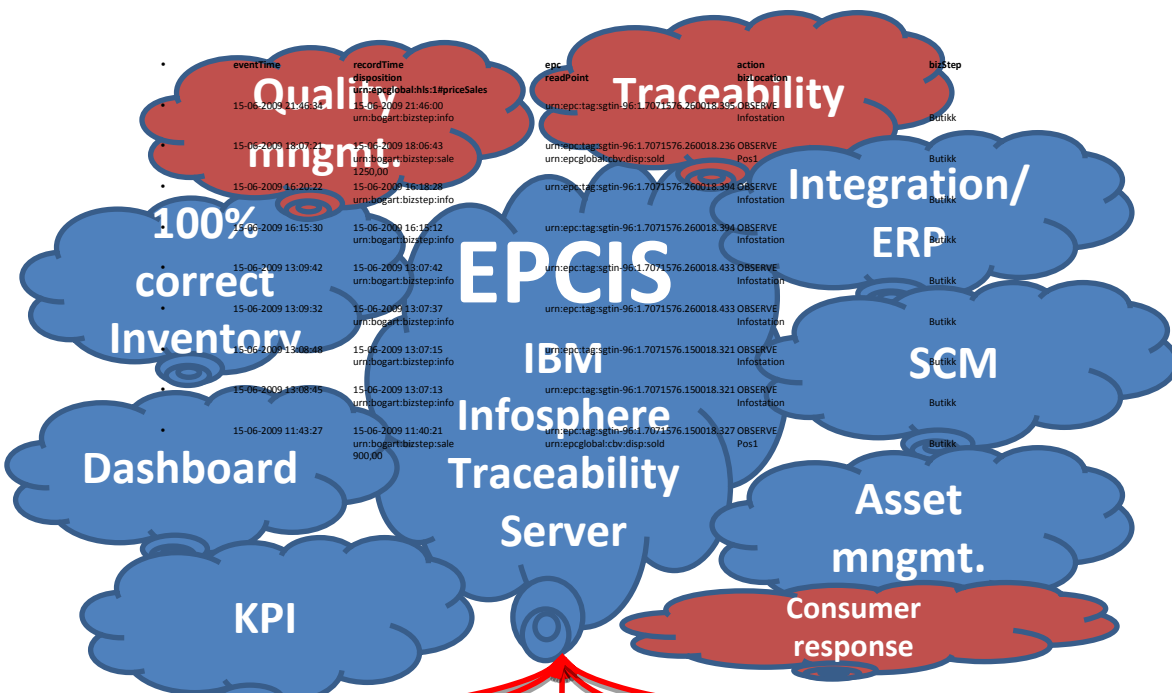
Customer DC Shipping
Location

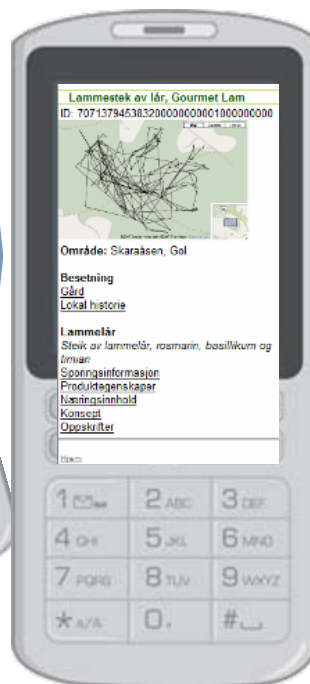
Customer Supermarket Receiving
Facility



Power of knowledge







Springinfo

ID: 70713794538320000000001100000000 Sarden

Individnummer: 7101
Produsentnr.: 617003700
Hentet: 21.09.07 kl 10:15
Losset: 21.09.07 kl 10:45
Slaktet: 21.09.07 kl 13:53
Skåret: 24.09.07 kl 13:30

Transport fra Gol: 02.10.07 kl 04:00
Ankomst Trondheim: 03.10.07 kl 19:00

[Hjem](#)



Produsentnr.: 06 17 0037
Gården ligger i Gol kommune i
Hallingdal, ca 10 km fra Gol i
fylket Hemsedal.

Oppskrifter



Lammestek Tilberedningstid:
ca. 5 timer Antall...



Lammeskank med
hviteleispure Tilberedningstid:
ca. 2 timer Antall...



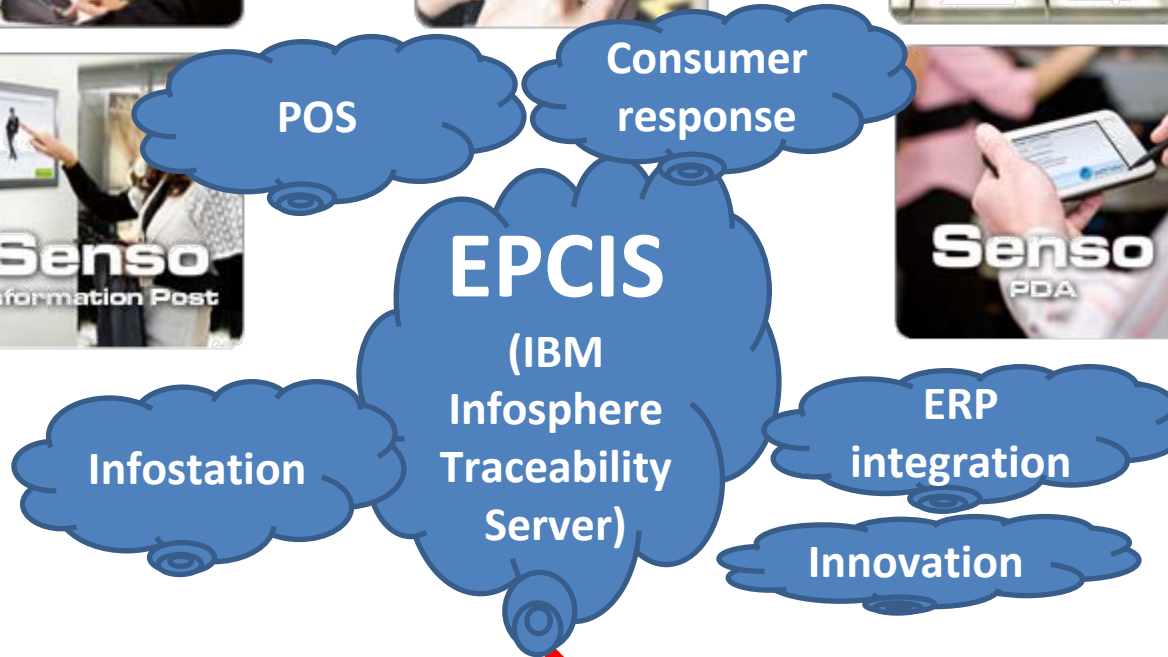
Lammebiff Tilberedningstid:
ca. 1 time og 40...

Det er ca. 300 sau og lam på
utmarksbeite, alle morsauene har i år
vært utstyrt med Radiobjølle. Disse
rapporterer posisjon (GPS) via GSM
med jevne mellomrom hele
beitesesongen.

De fleste, ca. 190 stk, går i området
ovenfor gården mellom 700 og 900 moh.
Dette er på sørsida av Hemsedal mot
fjellområdet mellom Hallingdal og
Hemsedal.

Resten, ca. 110 stk, går på beite i Hol
kommune ikke langt fra fylkesgrensa
mot Sogn og Fjordane. Dette
beiteområdet ligger lanns nordsida av

[Hjem](#)



PROD



STOREAGE



INFOSTATION



SALE

Where are we going

- Consumers demands information on everything ON DEMAND
 - Safe food – safe processes – safe environment
 - Visibility – carbon footprint – ethical production
- Traceability and serialization enables this...
- IBM has the solutions to enable this...