2006 한국SCM종합발표대회, 2006.11.2~3,한양대(서울)백남학술정보관 6층

SCM의 핵심 엔진으로서 아스프로바

제안설명회

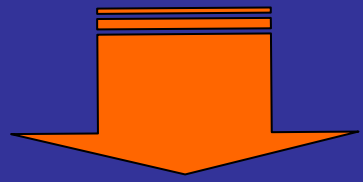
기업의 경영환경

세계화에 따른 글로벌 경쟁시대

기본이 되어버린 품질

고객 만족

경쟁우위요소 확보



정보기술의 전략적 활용을 통해

사업구조의 재편성

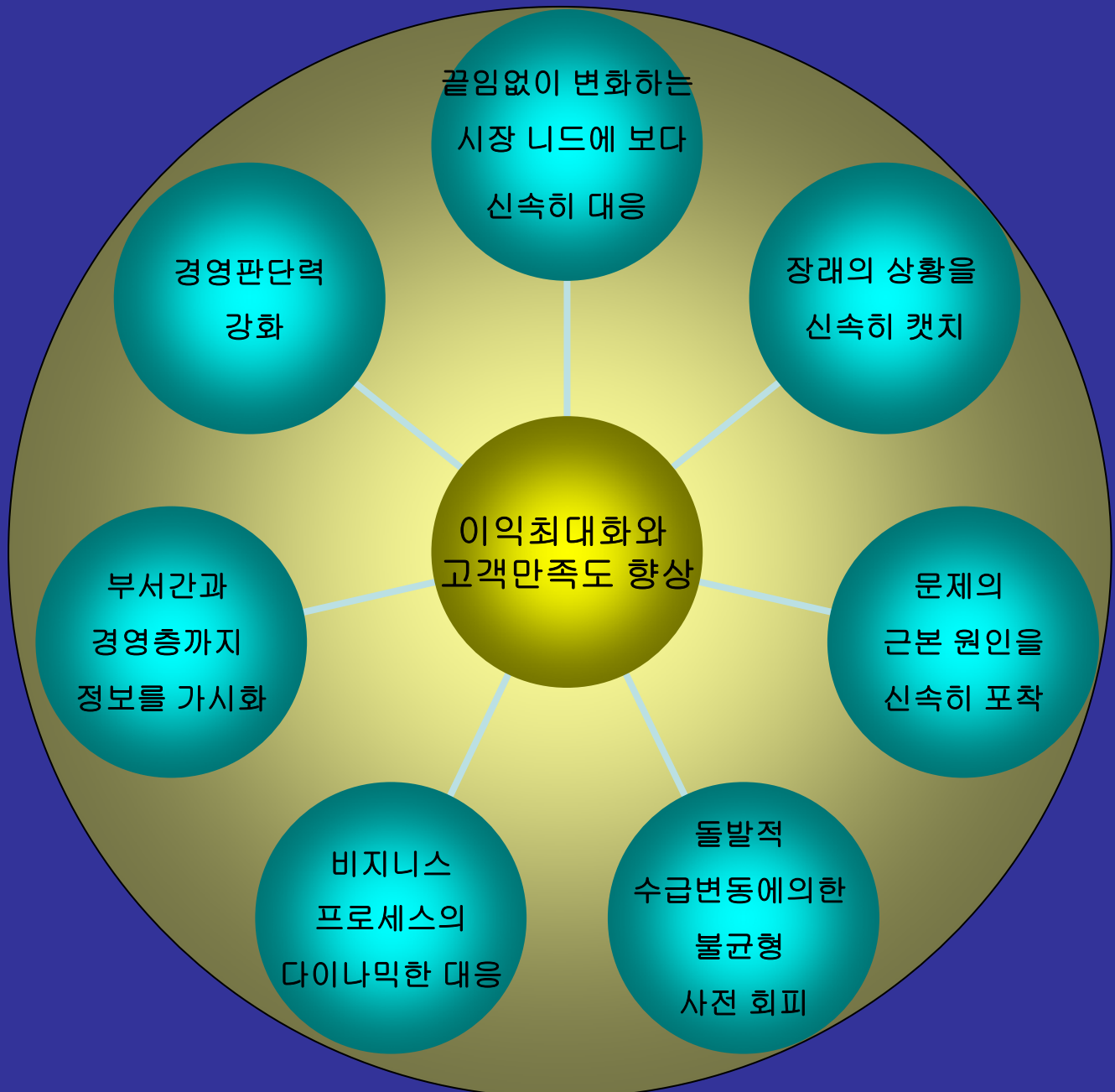
CIO들의 IT 관심사는 SCM

SCM이 제조, 유통 업계에서 **CIO**들의 최대의 이슈이다.

제조 30개사 CIO 관심사 – IT 이슈		유통 6개사 CIO 관심사 – IT 이슈	
1위	Supply Chain Management	1위	Enterprise Resource Planning
2위	Customer Relationship Management	2위	Supply Chain Management
3위	IT 기반 e비즈니스 체제 확립	3위	Customer Relationship Management
4위	Enterprise Resource Planning	4위	정보보호 및 보안(Security)
5위	정보보호 및 보안(Security)	5위	재해복구(Disaster Recovery)
6위	Enterprise Portal	5위	IT 기반 e비즈니스 체제 확립
7위	지식경영(Knowledge Management)	7위	전사 시스템 통합(Integration)
8위	전사 시스템 통합(Integration)	8위	무선 및 모바일 기술
9위	무선 및 모바일 기술	9위	지식경영(Knowledge Management)
10위	재해복구(Disaster Recovery)	10위	Enterprise Portal

Source : CIO Magazine, Jan. 2002

SCM의 목표

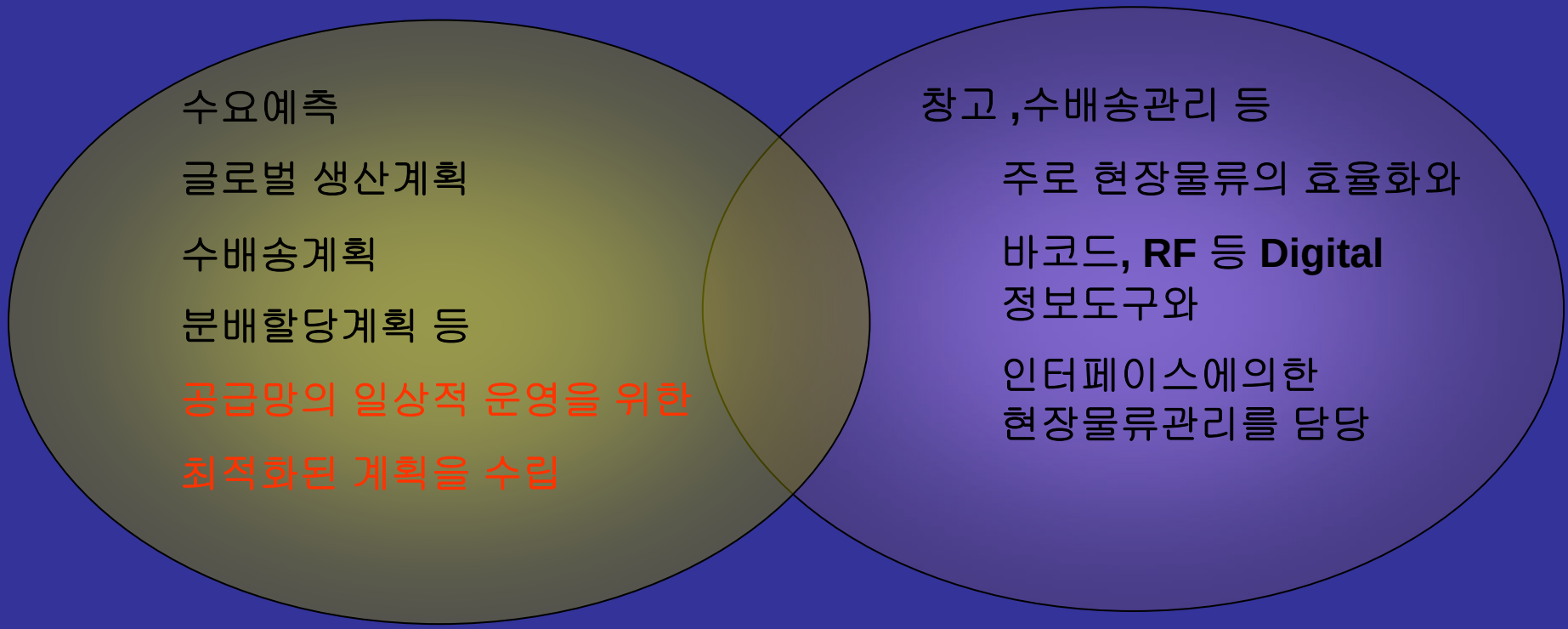

끝임없이 변화하는
시장 니드에 보다
신속히 대응
경영판단력
강화
장래의 상황을
신속히 캣치
이익최대화와
고객만족도 향상
부서간과
경영층까지
정보를 가시화
문제의
근본 원인을
신속히 포착
비지니스
프로세스의
다이나믹한 대응
돌발적
수급변동에의한
불균형
사전 회피

SCM 솔루션 분류

SCM

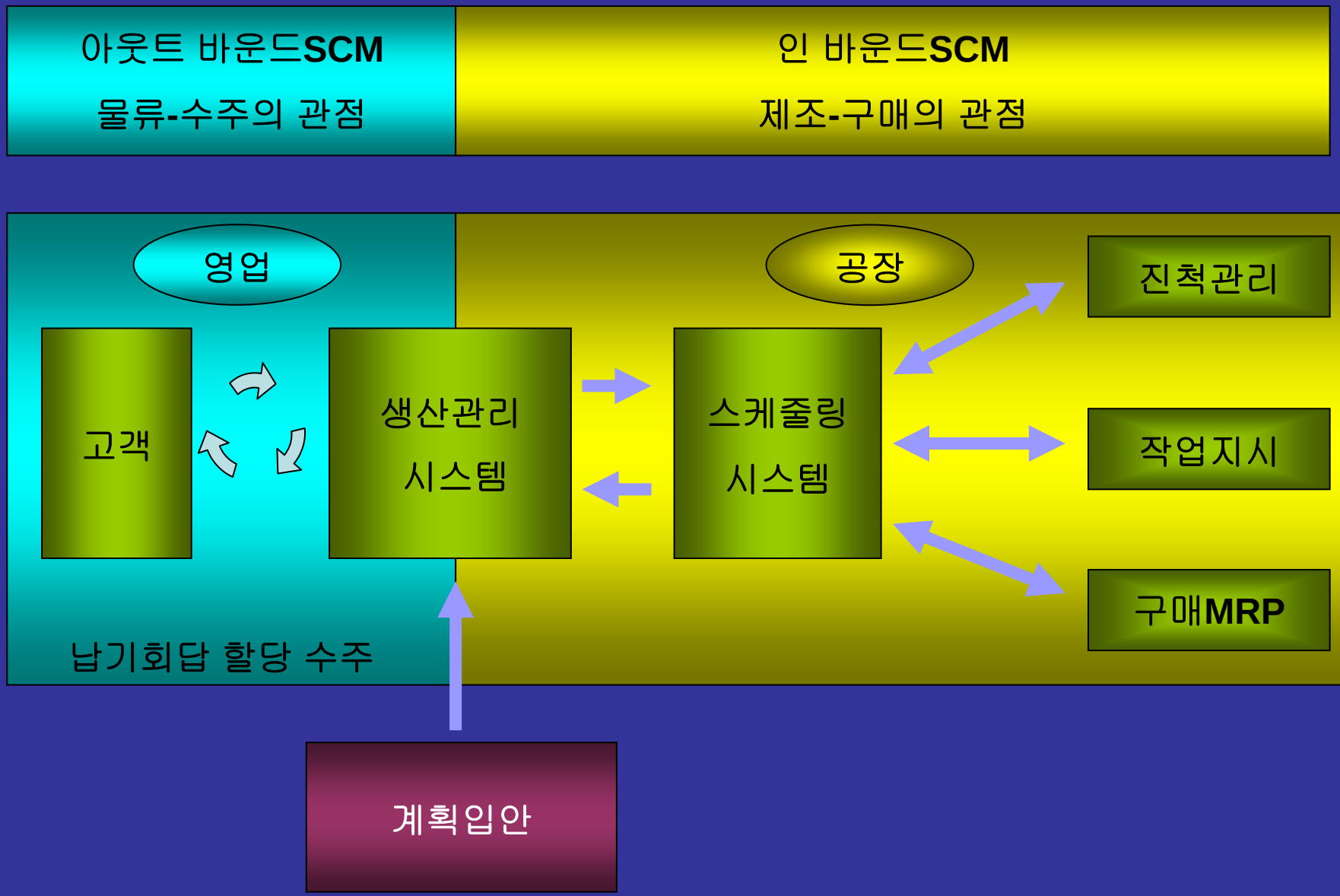
SCP (Supply Chain Planning)

SCE (Supply Chain Execution)



SCP (Supply Chain Planning)의 도입 목적

SCP 3가지 업무


아웃트 바운드SCM
물류-수주의 관점
인 바운드SCM
제조-구매의 관점
영업
공장
고객
생산관리
시스템
스케줄링
시스템
진척관리
작업지시
구매MRP
납기회답 할당 수주
계획입안

계획입안

해결과제

생산 판매 재고 전체의 메니지먼트기능이 없음

생산계획의 방침에 권위가 없음

수주판매이익이 연동하지않고, 그 계획에 신뢰성이 없음

판매계획정보(수주의 정확도등)의 정밀도가 낮음

계획입안 방법을 잘 모름

해결책

생산, 판매, 재고, 의사결정 부서를 설치해 책임권한을 명확히 함.

실 수요와 연동한 생산계획 사이클을 확립해,

생산계획의 정밀도를 향상시킴

영업이 정확한 정보를 입수해 판매계획의 정밀도를 향상함

아웃트 바운드 SCM(물류-수주)

해결과제

영업이 사령탑으로서 생산/판매계획의 중추기능

긴급제조오더와 급격한 계획변경에 의한 우선 제조등이 많음

영업의 수주 안건과 설계, 제조의 능력이 동기가 되어 있지 않음

제조 리드타임이 긴 경우 문제가 발생

판매/생산계획과 실수요와의 불일치

해결책

영업과 생산현장이 커뮤니케이션을 취함으로 실수요와의 연동을 시도

수주상황의 확정 정도에 따라 우선순위를 설정, 긴급도에 따라 조정

계획외 긴급 주문이 발생 한 경우에 대해선 제조공정과 능력을 조정

인 바운드 SCM(제조-구매)

해결 과제

계획과 제조지시, 조달지시와의 관계가 불투명

제조의 우선순위가 불분명하므로, 조정이 어려움

제조공정이 비효율적이고, 납기지연의 원인이 됨

재고/재공의 관리체제가 느슨

각수주에 대한 진척이 확인 안됨

해결책

실적정보를 리얼타임으로 수집 계획과의 차를 조정

할당 상황을 체크해 생산라인의 효율화를 시도

재고량을 항시 파악, 감시해 적절한 재고량을 확보

SCM 실현 방법

MRP/ERP 주도형 모델

엔터프라이즈**(Enterprise)** 계가 팩토리 **(Factory)**계를 포함

스케줄링 주도형 모델

엔터프라이즈**(Enterprise)** 계와 팩토리 **(Factory)**계를 구분

MRP/ERP 주도형 모델

엔터프라이즈(Enterprise) 계가 팩토리 (Factory)계를 포함

ERP(MRP)

엔터프라이즈계(본사, 사업부)

팩토리계

(공장,제조현장)
스케줄링

MRP, JIT을 목표로하는 간판시스템에서는

가능하나 다품종 소량생산

복잡한 수요 변동에는 한계

MRP주도: 고정리드 타임 문제

제조 현장

스케줄링

자원제약, 자재제약, 사양제약

수작업으로 조정

현장 시스템과 연결하는 문제

실적수집 문제

복잡

상업계와 생산계는

취급하는 정보의 목적과 데이터가 다르다

엔터프라이즈계와 팩토리계가 분단

스케줄링 주도형 모델

엔터프라이즈(Enterprise) 계와 팩토리 (Factory)계를 구분

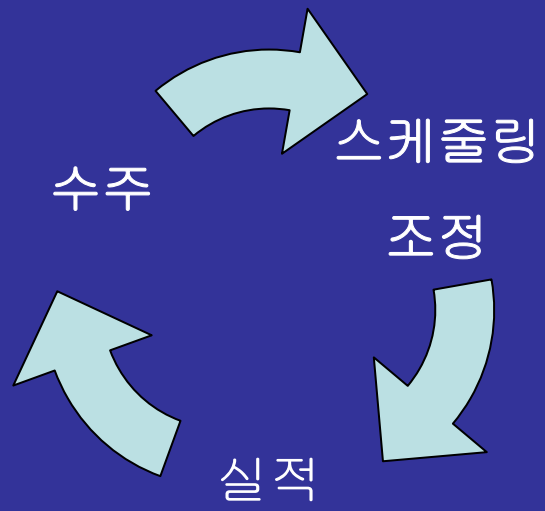
엔터프라이즈계(본사, 사업부)

ERP

영업정보 집약

수주관리

회계



팩토리계(공장,제조라인)

스케줄링1

조정

실적처리

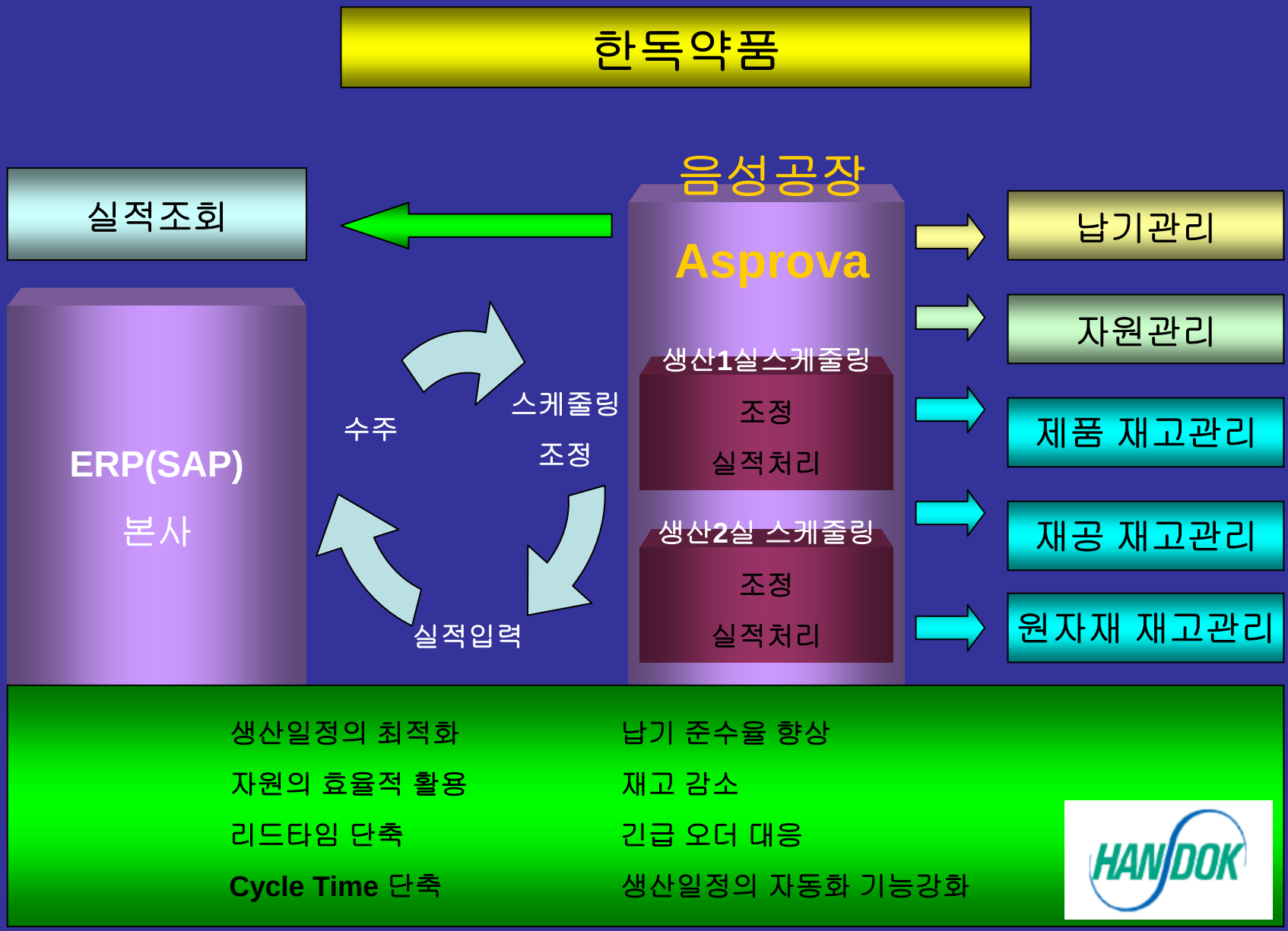
스케줄링2

조정

실적처리

실적과 계획을 반영한 최적화

스케줄러(Asprova) 주도형 SCM 모델 사례



스케줄러(Asprova) 주도형 SCM 모델
영국 사례

Richo UK

WIP cut by 30%, safety stocks by 70%: makes you think, doesn't it? Ricoh Products is driving this way using advanced planning and scheduling (APS) tools. Brian Tinham talks to its supply chain manager and finds there's a lot more to it

"You can't afford to carry on in business without this... We were gobsmacked." So says Phil Hawkins, supply chain manager at Telford-based multi-million pound photocopier manufacturer Ricoh Products, of his advanced planning and scheduling (APS) system. His firm looked at systems from Frontstep (Symix at the time) through Ricoh's ERP vendor Geac, STG (OPT, now owned by Manugistics) and Preactor before selecting Profax's Asprova. And he says it's been even better than they could possibly have anticipated. "It's fantastic."

Ricoh turned to APS because, as Hawkins says, scheduling 22 photocopier consumables production lines with works-orderless repetitive scheduling and mostly four or five level BOMs (bills of materials) "was taking four or five planners two days every week" for weekly planning. Although the firm is still in the final throes of installation, first in the plastic moulding shop, as we go to press, he says that Asprova will cut this to one planner and just two hours – allowing the firm to move easily up to daily scheduling.

And that, and the visibility it brings, is set to bring serious hard benefits. He expects WIP (work in progress) to be cut by 30% and finished goods to be slashed from

WIP cut by 30%

"10 or 12 days stocks to about four. We're talking about very big money: you can imagine."

Alright, that's impressive. Now backtrack a minute. Advanced planning and scheduling (APS) used to mean just that: the technology to support doing production planning and scheduling better – mostly by getting away from the limitations of MRPII. And you're into theory of constraints (TOC) and the range of advanced algorithms that consider multiple parameters (like materials, capacity and factory constraints), complex sequence dependencies and key performance criteria (like customer service, cost reduction and inventory minimisation) concurrently – and do it frequently – to get there and keep getting there. This is the territory that Ricoh is so successfully now exploring.

But times, technology and terms have moved on. Today, APS and SCM (supply chain management) tend to be treated as blanket acronyms, by vendors and analysts alike, for much wider suites of applications – covering everything from supply chain design and optimisation, to forecasting, distribution and ultimately transportation – as well as manufacturing.

Does it matter? Well yes it does. Partly because there's the small issue of comparing apples with apples. Partly because at each level you should be considering different technologies. And partly because, with the advent of Internet technology, we need to recognise the implications for smarter, more effective collaborative working at every level. This is what's significant: beyond the sheer sophistication and multi-parameter compute power (simulation and optimisation) of these systems, is the fact that real time information can be shared relatively easily among as many people, departments and applications as you like. And that's a very big deal.

Clearly, it's high time to start thinking differently about planning and scheduling. Because the technology now readily available means we can, and the prizes of greater efficiency and competitiveness, and hugely reduced costs – through much slicker manufacturing and business methods – can mean significant and indeed rapid return on investment if you get it right.

We're all affected

There's a temptation to think that much of this won't directly impact most mid manufacturers: it's one thing to be a major corporate with production plants and suppliers around the world; it's quite another to be one of those suppliers. But the fact is we need to be very aware of the scope of collaborative SCM in formulating our business and IT investment plans. Because as the bigger boys start rolling out web-based collaborative planning and scheduling initiatives (believing that this will make a big difference to their profitability), we in turn will have to be able to collaborate.

2001.10 MCS

Dyson UK

Dyson implements a scheduling cyclone

World famous vacuum cleaner manufacturer Dyson Appliances has ordered an Asprova advanced planning and scheduling (APS) system from Profax in the UK to run its production facility – and brought high speed APS into the limelight and mainstream.

The firm's md Andy Ferrar says Dyson is far from alone: Dyson joins Ricoh Products, where the APS is being installed to transform photocopier consumables production, and Birkbys Plastics, which is using APS for automotive plastic mouldings manufacturing – as well as some 600 others around the globe.

At Dyson in Malmesbury, Asprova is to optimise moulding capacity usage and improve the accuracy of delivery date commitments, also providing for more accurate quantities for assembly and allowing the firm to manage with lower inventory.

At the CIM Show you'll find Ferrar saying that APS systems like his should be replacing all the manufacturing planning modules of conventional ERP. He cites the Institute of Operations Management, saying ERP is "no longer the solution of choice" – it should be left to handle "sales order processing, pricing, inventory control and so on."

APSs, he argues, do the job of manufacturing modules much faster, better and more accurately and produce a useful optimised plan every time – dealing with the realities of variable lead times, process and routing choices, different priorities, finite capacity and so on concurrently.

They have greater breadth of planning scope and visibility and they get manufacturing responsive and flexible as plan regeneration can be as often as you like.

And with time granularity down to minutes or seconds, you can promise and deliver on time, implement and support just in time (JIT) manufacturing and move to profitable make-to-order without the limitations of the ERP/MRP system getting in the way.

"The next five years will see a radical upgrading of IT used by manufacturers to embrace APS – perhaps as many as 40%."

Meanwhile, at CIM 2001, Profax says it will show how its system, which was highly commended as Best Manufacturing System at last year's CIM show, can schedule an astonishing 10,000 jobs in under 10 seconds.

Ferrar says Version 8 now includes a Microsoft Excel interface for data integration and reporting.

2001.11 CIM

스케줄러(Asprova) 주도형 SCM 모델
일본 사례

(주)기하라 제작소	히타치금속 주식회사

経営トップが語るASPROVA

(株)木原製作所

ASPROVAで生産スケジュールが"見える"工場へ 製品在庫も36%削減

多品種少量生産で顧客ニーズに応える製造業にとって、生産スケジュールの正確な把握は生産効率を向上させ、在庫を削減するうえで重要だ。金属配管の専門メーカー、木原製作所は、工場向け生産スケジューラ「ASPROVA」を導入することによって生産効率を大幅に向上させ、製品在庫を36%削減した。これをきっかけに、生産部門の体質改善はもちろん企業風土の改革も進めている。

狙い通りの在庫削減効果

生産計画への参加意識高める

(株)木原製作所プロフィール

손익분기점을 35% 앞당기고

제품재고 36% 감소

ITリーダーが語るASPROVA

日立金属株式会社

「ASPROVA」をSCMの中核に 最適化ロジックで業務革新を遂行

日立金属にとって生産スケジューラ「ASPROVA」は単なるITツールでなく、SCM(サプライチェーンマネジメント)導入による業務革新を加速するエンジンといってよい。仕掛かり在庫を減らし、リードタイムを短縮しながらスループットを最大化するというこれまでにない効果を実感することで、生産管理と現場が同じ土俵で情報を共有できるようになった。協働型の業務革新を実現、目まぐるしく変化する需要に対応し競争優位性を保つための戦略的なツールという位置付けだ。

ASPROVAで業務革新

TOCに基づくスケジューラ

日立金属株式会社プロフィール

주문은 늘었지만

작업시간은 감소

NIKKEI Digital Engineering 2003 3,4

Asprova도입업계 100업종이상

시장점유율 **52%(2002년, 후지경제)**

1000사이트 도입 돌파!!!

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미쯔비시중공업
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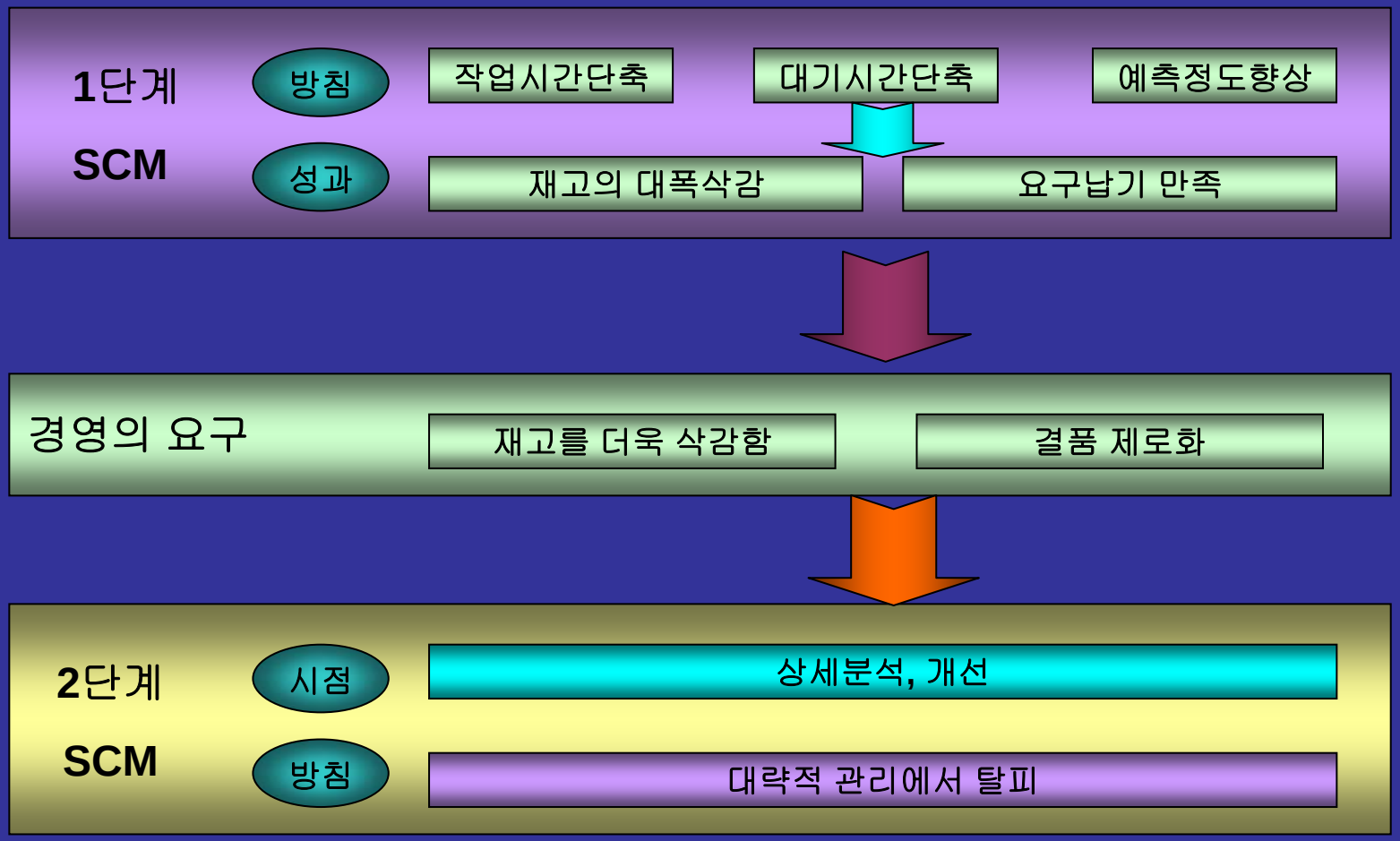
고찰 및 제안



Agrova는 이들을 실현 할수 있는 세계 최강의 시스템을 가지

Join the winners!!!
SCM의 핵심엔진 Asprova

감사합니다