



***Justice in Time:  
Applying TOC to the Law Courts  
System in Israel***

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## ***How would you schedule and manage a typical district court?***

- *13,000 incoming cases per year*
- *Work In Process (WIP) of 15,000 cases*
- *3 pre-trial meetings per case (on the average)*
- *7 evidence meetings per case (on the average)*
- *87 different types of cases, each one with a unique procedure*
- *20 "Mega" cases per year*
- *4 parties per case (on the average)*
- *52 judges with a broad spectrum of skills and specialization*
- *Uncertainty regarding:*
  - *Number of meetings*
  - *Number of witnesses*
  - *Probability to close the case by a settlement*

***Can current managerial approaches and tools (e.g. Theory of Constraints – TOC) cope with such systems?***



## ***The Judiciary system compared to other complex systems***



- *Lower flexibility: processes cannot be changed without legislation or regulation*
- *Judges' autonomy*
- *A culture of Judicial professionalism, not a managerial one*
- *50% of the participants act against the system...*
- *The level of complexity demands a different approach*



## *Same problems everywhere...*

### ***Worldwide survey findings:***

- *Increasing demand*
- *Increasing costs*
- ***Long lead time***
- *Diminishing throughput*
- *Dissatisfaction of the public*





## ***The social aspect***



***Justice delayed is justice denied...***



**Maybe we need a good comprehensive model to resolve the problem...**



- Gouy-Chapman

$$2 \left( \frac{d\psi}{dx} \right) \cdot \frac{d \left( \frac{d\psi}{dx} \right)}{dx} = - \frac{8\pi}{\epsilon} \sum C_{i0} z_i F_{ex} \left( -\frac{z_i F\psi}{RT} \right) \frac{d\psi}{dx}$$

- Charge Density

$$G_s = - \int_0^{\infty} - \frac{\epsilon}{4\pi} \frac{d^2\psi}{dx^2} dx = \int_0^{\infty} \frac{\epsilon}{4\pi} d \left( \frac{d\psi}{dx} \right)$$

- Simplifies to:

$$G_s = \frac{\epsilon x}{4\pi} \frac{\sinh(Az\psi_0)}{Az}$$

- Huckel Field:

$$V = \frac{2/3 \epsilon \epsilon_0 J F(ka)}{4\pi D}$$



## ***Results of using new managerial concepts for 2 years***

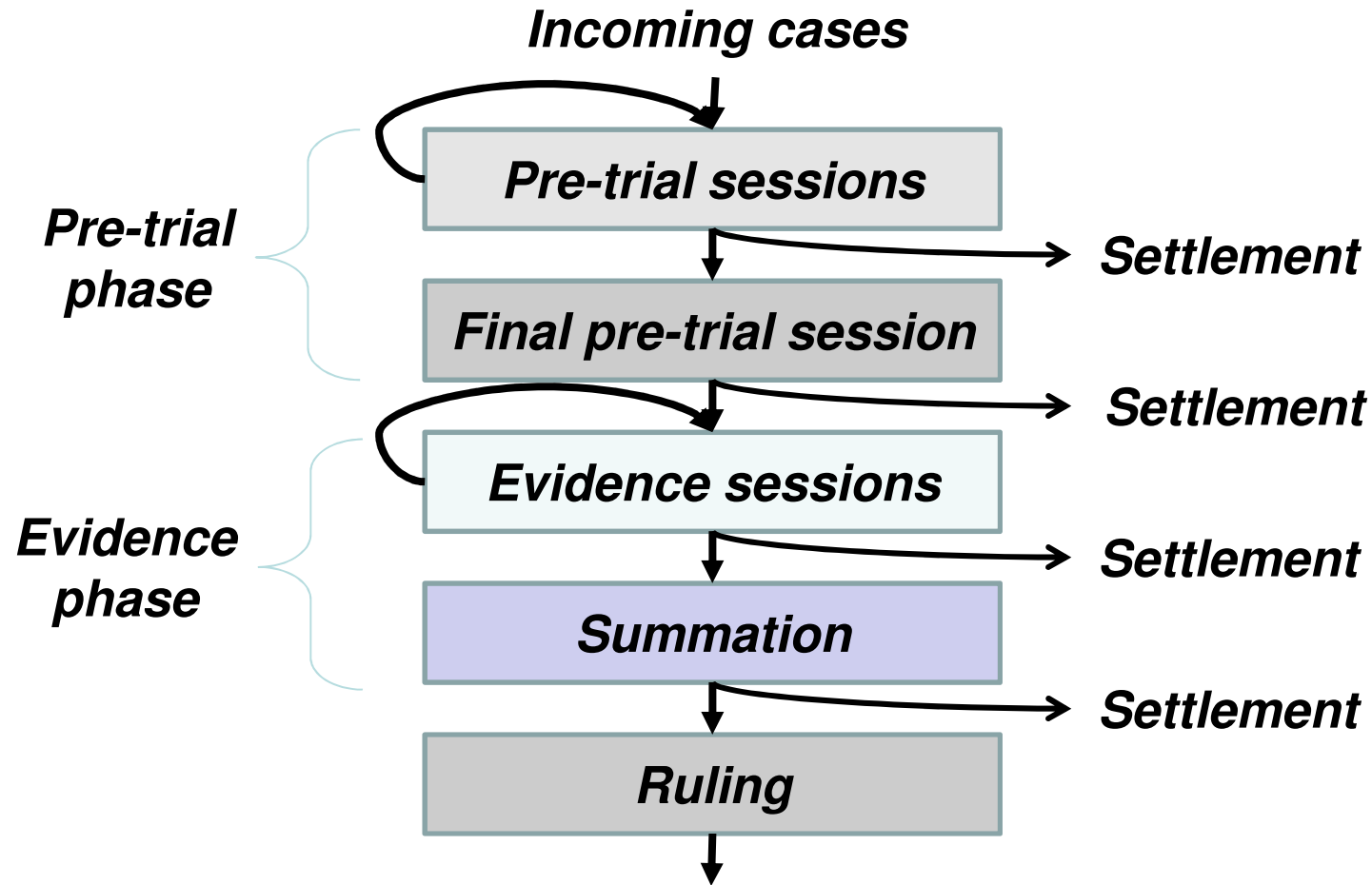


*In pilot implementations:*

- *Lead Time reduced by 47%*
- *Throughput increased by 43%*
- *Judicial quality improved*



# The judiciary process in Israel





## *The challenges*

- *Increasing the Throughput (T) of Law Courts and reducing their Lead Times (LT)*
- *Tackling the complexity of law courts management*
- *Tackling the improper functioning of the Law Courts that leads to **poor public trust** and **high cost of doing business***



## ***Law court value drivers***

*Value-drivers – managerial parameters which through their improvement the **value of the law court to the public is enhanced***

- *Throughput enhancement*
- *Lead-time reduction*
- *The Complete Kit*
- *Quality improvement – reduction of the “garbage factory” and Bad Multi-Tasking (BMT)*
- *Measurement and Control*



## Reduction of the “garbage factory”



- “Garbage factory” – all the activities that do not contribute value to the law court and the public
- Usually the “garbagy factory” amounts to >50% of work effort:
  - False claims
  - “No show”
  - Continuations
  - Getting the dossier with an “incomplete kit”
  - Repeated studies of the case
  - Unjustified requests of all kinds
  - Waiting for lawyers or for a prisoner
  - Inefficient IT systems
  - ...





## ***The complete kit (CK) principle***

***“Don’t start a job if you realize that it doesn’t have the complete kit”***

*Complete kit – all the that is required **to finish** the job in one iteration:*

- *Information:*

- *Documents*
- *Summations*
- *Calculations*
- *Affidavits*
- *Evidences*
- *Etc.*

- *Parties*

- *Witnesses*

- *Professionals*



## ***Throughput enhancement*** ***Step 1: Determine the system's goal***



- ***Provide “ruling”***
- ***Provide justice in the global sense, rather than locally-optimize the specific case:***  
*“... taking into account the need to allot resources to other cases” (Lord Woolf)*



## **Step 2: Determine the system's performance measures**



- **Throughput** – *number of closed cases*
- **Operating Expenses** – *cost of resources (including judges)*
- **Inventory** – *number of open cases*

***These measures are not sufficient, hence:***

- **Lead Time** – *case cycle time from the parties' standpoint*
- **Quality** – *% of accepted appeals*
- **Due Date Performance** – *% cases finished within the Service Level Agreement (SLA)*



***Step 3: Identify the system's  
constraints***

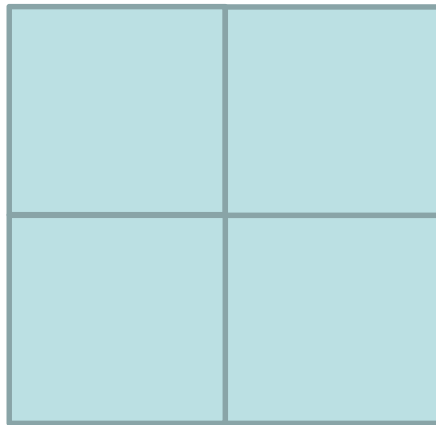


- *Judges are the Bottleneck*



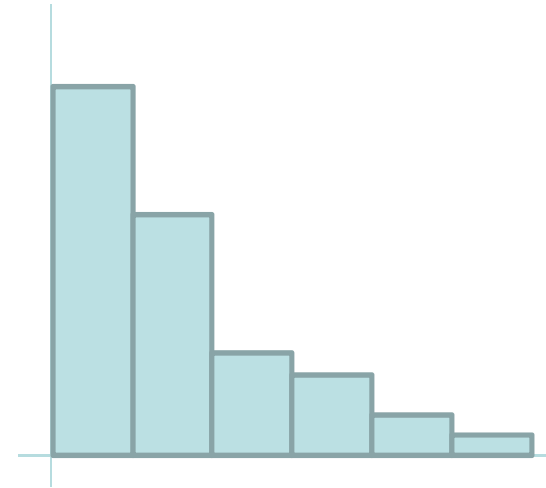
## Step 4: Exploit the system's constraint

Strategic Gating (SG)



Alternative Dispute Resolution (ADR), false claims, strive for settlements

Reduction of Ineffective Time



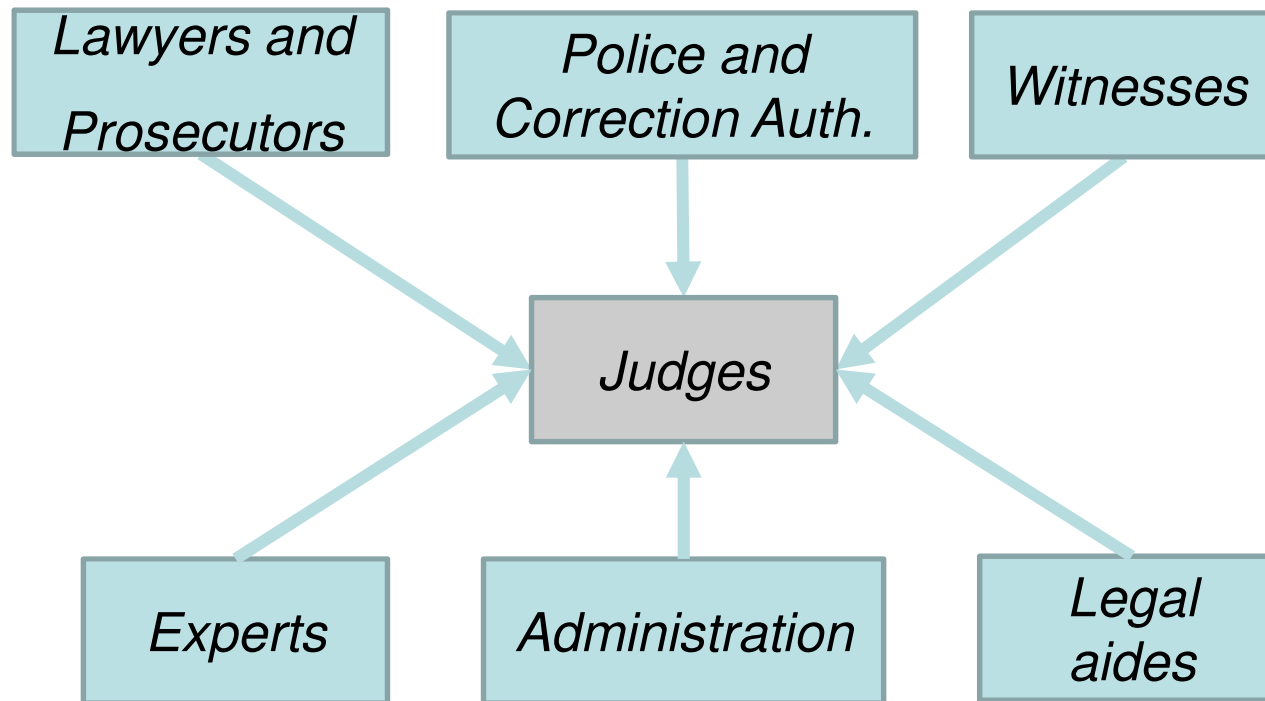
Over 50% ineffective time



## ***Step 5: Subordinate the rest of the system to the constraint***



### ***Tactical subordination:***





## Step 5: Subordinate (cont.)

*A need for a differential solutions for each phase:*

	<i>Pre-trial phase</i>	<i>Evidence phase</i>
<i>Percent of cases</i>	100%	40%
<i>Effort per case</i>	1 hour	4 days



## ***A mandatory comprehensive pre-trial session: a “kick-off “ meeting***



- *Preparing the **complete kit for the evidence phase***
- *Strategic gating on adversaries*
- *“25/25” on witnesses and content*
- *Planning and scheduling witnesses*
- *Scheduling oral summations meeting*



## Step 5: Subordinate (cont.)

*Differential solutions for each phase:*

	<i>Pre-trial phase</i>	<i>Evidence phase</i>
<i>Percent of cases</i>	<i>100%</i>	<i>40%</i>
<i>Effort per case</i>	<i>1 hour</i>	<i>4 days</i>
<i>Daily Time frame</i>	<i>8-10 AM</i>	<i>10AM – 17PM</i>
<i>Scheduling</i>	<i>Nearest available slot</i>	<i>Drum-Buffer-Rope (DBR)</i>



## ***Drum-Buffer-Rope (DBR)***



*Before:*

- *Un-planned hearing*
- *Work In Process (WIP) = 60 cases*

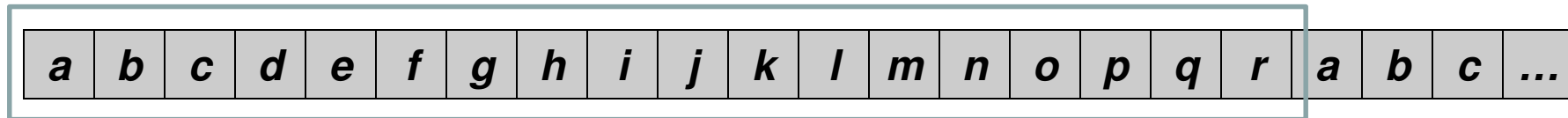
*After:*

- *Weekly hearing*
- *Work In Process (WIP) = 5 cases*

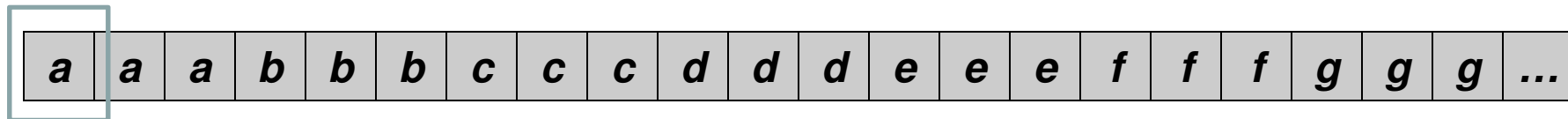


## ***DBR schematic presentation***

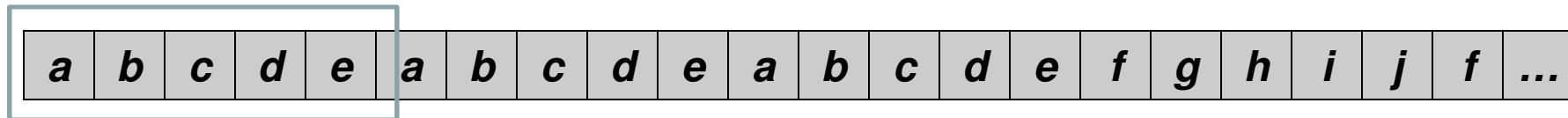
*The effect of hearing frequency on Buffer size:*  
***Buffer size is proportional to sessions' frequency***



*Un-planned hearing: WIP = 18*



*Day-To-Day hearing: WIP = 1*



*Weekly hearing: WIP = 5*



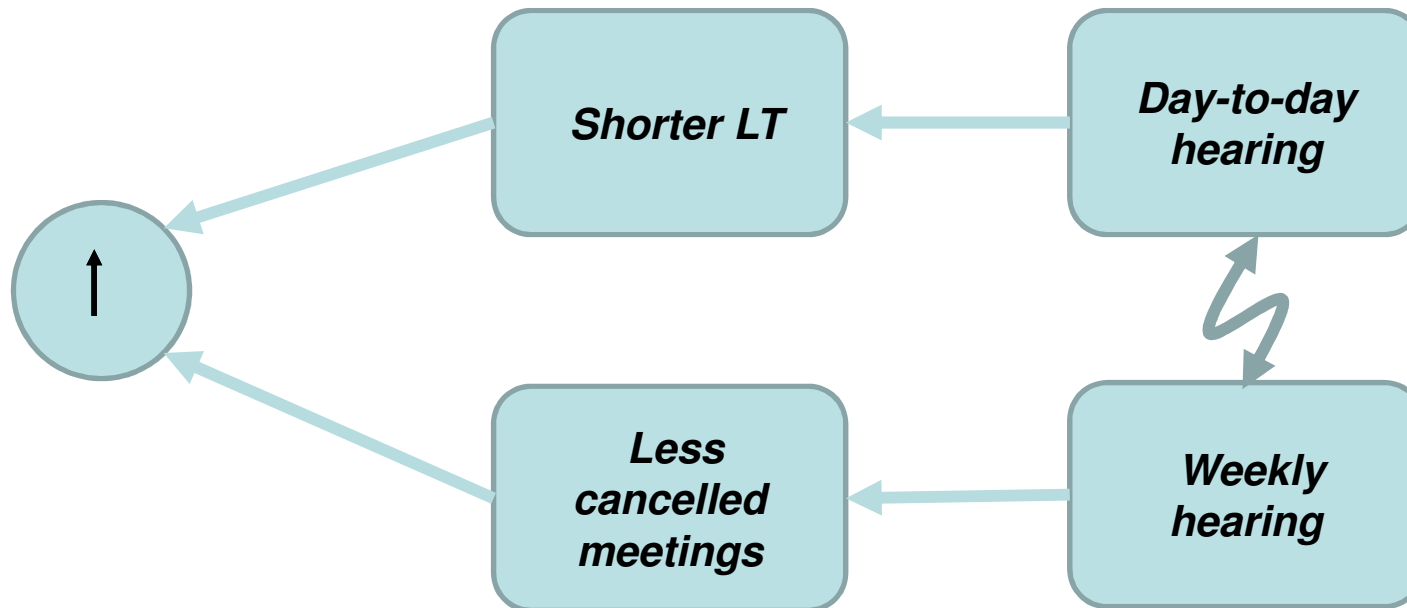
## ***DBR analysis in evidence hearing***

	<i>Un-planned hearing</i>	<i>Weekly hearing</i>	<i>Day-to-day hearing</i>
<b><i>Start</i></b>	<i>Early</i>	<i>Late</i>	<i>Very late</i>
<b><i>Finish</i></b>	<i>Late</i>	<i>Early</i>	<i>Very early</i>
<b><i>Uncertainty risk*</i></b>	<i>1 day max</i>	<i>1day max</i>	<i>4 days max</i>
<b><i>Risk mitigation (fillers)</i></b>	<i>Not required</i>	<i>Medium</i>	<i>Low</i>
<b><i>Lead Time (LT)</i></b>	<i>High</i>	<i>Low</i>	<i>Very low</i>
<b><i>Quality (Q)</i></b>	<i>Low</i>	<i>High</i>	<i>High</i>
<b><i>Throughput (T)</i></b>	<i>Low</i>	<i>High</i>	<i>High</i>
<b><i>Buffer</i></b>	<i>High</i>	<i>Low</i>	<i>Very low</i>

*\*Assuming 4 evidence days per case*



## ***DBR: Day-to-day vs. weekly hearing***



### ***Conflict resolution by a win-win solution:***

- *Day-to-day hearing for “Mega” cases*
- *Weekly hearing for all other cases*



## ***DBR color zones***

*Color zones for releasing new cases (per judge):*

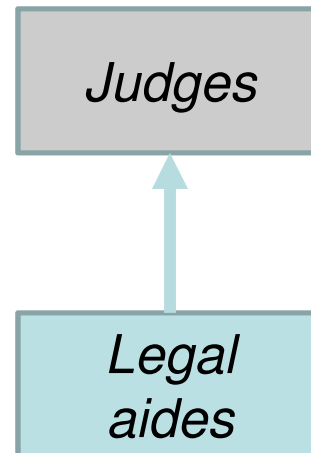
<b><i>Next available slot for evidence hearing</i></b>	<b><i>Color zone</i></b>	<b><i>Indication</i></b>
<b><i>&lt;8 months</i></b>	<b><i>Green</i></b>	<b><i>Acceptable</i></b>
<b><i>8-12 months</i></b>	<b><i>Yellow</i></b>	<b><i>Late</i></b>
<b><i>&gt; 12 Months</i></b>	<b><i>Red</i></b>	<b><i>Unacceptable</i></b>

*Red zone corrective actions:*

- Court-flour clean-up, overtime, mobilization*
- Court's vice-president / president stops the release of new cases to the judge*



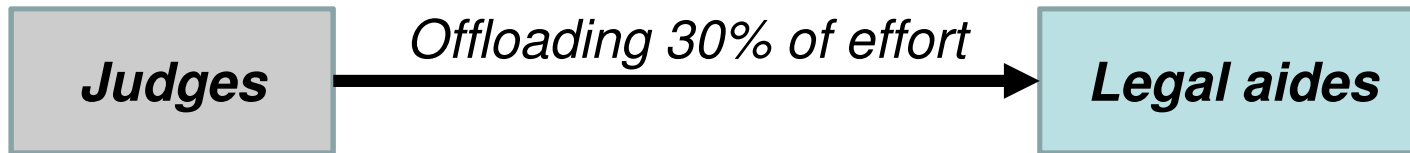
## ***Step 6: Elevate the constraint***



*Almost every judge has a legal aide for offloading*



## *Offload by legal aides*



*Legal aides salaries ~10% of judges' salaries*



## ***Typical activities to be delegated to the legal aides***



- *Information gathering and writing*
  - *Gathering legal material*
  - *Verdict drafts*
  - *Case summary and preparation for sessions*
- *Strategic gating for the judge*
  - *Connections to external entities (attorneys, secretaries etc.)*
  - *Screening arriving cases*
  - *Checking the existence of a complete kit*
  - *Dealing with requests*

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***Step 7: Go back to step 3***



*The notion of Permanent Bottlenecks*



## ***Additional improvements***

- 1. Oral Summations*
- 2. Short judgment documents and verdicts*
- 3. Determining Due Date for cases with interim milestones*
- 4. Law Court “flour cleaning”*
- 5. One day per week for writing verdicts*



## Pilot implementations – results



**A District Court in Israel** – applying the 7 focusing steps and dDBR for civil cases:

	<i>Average Lead Time for pre-pilot cases (months)</i>	<i>Average Lead Time for pilot cases (months)</i>	<i>% Improvement</i>
<i>Final pre-trial to Ruling</i>	22	12	-47%
<i>Total case life-cycle *</i>	56	41	-27%
<i>* Pre-trial phase to be further improved by implementing Due-Dates Performance (DDP) control</i>			



## ***Pilot implementations – results***

***A Magistrate Court in Israel – Complete Kit pilot in Road Accident Victim Compensation (RAVC) cases:***

	<b><i>RAVC Throughput (no. of cases)</i></b>	<b><i>Torts Throughput (no. of cases)</i></b>	<b><i>Number of Full Time Equivalent judges</i></b>
<i>2008</i>	<i>3548</i>	<i>4470</i>	<i>7.2</i>
<i>2011</i>	<i>4476</i>	<i>5733</i>	<i>6.0</i>
<b><i>% change</i></b>	<b><i>+26%</i></b>	<b><i>+28%</i></b>	<b><i>-17%</i></b>

***Total T increase 43%***



## ***The implementation process***

- *Project steering committee headed by the Chief Justice and the manager of the courts system*
- *Seminars to 96 presidents and vice presidents of courts on TOC and Focused Management*



## *The implementation process (cont.)*



- *Pilot implementation in 4 courts*
  - *Steering committee headed by the president of the court*
  - *Focusing on few improvement topics*
  - *Seminars for judges, legal aides and administration*
  - *Meetings and collaboration with the Bar Association of Lawyers, the District Attorneys, and the Public Defenders*
  - *Value-enhancement teams*
  - *Flexibility in the implementation: adaption of the solution to the special needs, culture and characteristics of each court*
  - *Measurements and control*



## ***POOGI 1***

*Introducing **Due-Dates planning** and **Due-Date Performance (DDP)** measurements for the pre-trial phase should result in Lead Time reduction, and*

- Reduction of continuations*
- Taking advantage of “the student effect” and “Parkinson effect”*



## ***POOGI 2***



*Project Management (PM) and Critical Chain Project Management (CCPM) implementation in “Mega” cases*

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*Thank you*