Part 1: Standards first, licensing second

Describing the problem
Tension

• Interoperability standards: Uniformity of implementations (as needed for interoperability) by dictating particular implementation choice

• Patent: Monopoly over use of particular implementation choice
Standard-setting over time
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Spec work begins

Time
Standard-setting over time

- Spec work begins
- Spec frozen

Indicative

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Market adoption = Dominant design

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- Economic standard

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- Followers implement

Tech spec → Economic standard
Standard-setting over time

Spec work begins → Spec frozen → Rev 2... → First deployment → Market adoption = Dominant design → Followers implement

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Tech spec → Economic standard

Time → Industry Investment

Indicative

License negotiation

Indicative
Patent Licensing For Standards Occurs Ex post Implementer Investment
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Ex ante declarations of royalty rates are not a feasible solution for any complex, dynamic standard
Patent Holdup
Patent Holdup

- Applies in ex post licensing: substantial investment has occurred
Patent Holdup

• Applies in ex post licensing: substantial investment has occurred

• In presence of market-defining standard, implementers face exceptionally large **holdup risk**
  • Essential patents are unavoidable
  • significant sunk cost
  • Circumvention, industry exit no longer feasible

• Risk: Patentee appropriates implementer sunk cost
  • higher royalty than implementer would have accepted ex ante
  • Significant negotiation leverage
Part 2: FRAND – or else

Contract context for requiring and giving FRAND Undertakings
Near universal response to Patent Holdup and Standards
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• “FRAND” or “RAND” = undertaking to license on Fair, Reasonable and Non-Discriminatory terms and conditions
• In use by majority of Standard–Setting Organizations
  • Main alternative: Royalty Free (and FRAND)
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  • Patentee can have patent included in standard – but not on any terms
Standard practice (sic) under SDO rules
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Must get FRAND for Essential Patents

– or else: DROP THE STANDARD!
Giving FRAND undertakings – PART OF A DEAL

• THE DEAL: Participating in standards-making
  • Possible to get one’s patents included: Big market, easy enforcement
  • Right to withhold individual patents, if done upfront
  • Requires licensing of included patents on terms compatible with standardization objectives
    • MUCH more than “not blocking the standard”
  • Giving FRAND undertakings signals acceptance of these ground rules

• Refusals of FRAND are extremely rare

• Compliance?
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  - Georgia-Pacific: a smorgasbord?
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Objective of standardization:
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- FRAND should be compatible with the implementer’s investment case
Part 3: The 25 Per Cent “Rule”

One perspective for evaluating investment compatibility
Implementer investment case

• Design, specific assets, market investments
  • Total capital requirements – capital at risk

• Earning potential: future cashflows
  • Operating margin

• Industry/business area characteristics
  • Business model – e.g. integrated manufacturer/OEM
  • Risks assumed
  • Maturity of product market
  ⇒ relatively consistent op margins among industry peers

• Total patent cost in relation to operating profit capability
  • Value of patent(s): earning power of licensed business
25 Per Cent “rule”
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- Practitioner rule of thumb, not based on economic theory
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- Suggestion: Royalty burden exceeding 25% of industry-typical operating profits will discourage implementer investment
  - Attainable profitability in line with industry experience
  - Implementer’s risk in investments
  - Implementer’s and patentee’s “shares” of possible returns

- Total cost of all patents, not relevant for any single patent
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<table>
<thead>
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<th>“Typical” OP</th>
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<tr>
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<td>4 % of sales</td>
</tr>
<tr>
<td>6 % of sales</td>
<td>1.5 % of sales</td>
</tr>
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</table>
FRAND in implementation context

Essential patent royalty sought should be expressed

• in relation to a stated aggregate patent cost
  
  Acid test: 25 per cent rule

• justifying the proportion sought from that aggregate
  
  Quantitative and qualitative arguments
Takeaways
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  • Experience suggests: 25 per cent “rule” as a benchmark
Takeaways

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• FRAND has to be effective – or its absence would not be a showstopper

• Standardization objectives require total cost to be compatible with investment in implementations
  • Experience suggests: 25 per cent “rule” as a benchmark

• **Recommendation:** SDOs should require patent holders to express (in licensing offers)
  • what total Essential patent cost (estimate) they base their offer on
  • what justified proportion of such total cost they consider as their appropriate royalty
Thank you