Are You Deal/Investment Ready?

Through the Lens of the Buyer and Investor

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Abstract

The critical questions that all Biotech companies need to be able to answer is "How does a prospective buyer, partner or investor look at my program and what do I need to do in order to optimize the probability of a successful deal"? The successful search for a buyer/partner/investor is only partly dependent on the intrinsic properties of the product you are developing. Multiple extrinsic factors can be just as, or more, important than the product itself and in many assessments the decision not to invest is driven by factors over which you have control.

The primary focus of due diligence is to look at risk, risk mitigation and probability of success. This presentation will represent the scientific evaluation side of a deal team's perspective and will show you the process, as seen through the lens used by due diligence experts that advise VC investors, in-licensing parties and partner deal makers. This session will provide you insights that could immediately be used in your development programs and could improve your readiness for deal and investment engagements.

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Levels of Due Diligence

- Due Diligences are not undertaken lightly
- Functional experts usually have 25+ years of experience
- A full in-depth due diligence can cost $120-150K
- A full DD will often be preceded by a high level assessment
  - Often based on non-confidential information
  - Assess key value questions
  - Identify questions to be answered if a DD is undertaken
  - Decide if worth proceeding to deal discussions

A full DD not usually done unless agreement has been reached on deal concept

Mechanics and Red Flags

- Most DDs are conducted virtually through data rooms
  - Allow sophisticated control over data access
  - Once set up, are easily used for multiple potential investors
- Do your best to facilitate easy review of your data
  - Create a logical structure for the data room
  - Err on the side of inclusion rather than exclusion
  - Have a consistent naming convention for files
  - Table of contents so available information is easily understood
  - Consider file access restrictions carefully
- Handling Questions
  - Avoid one word answers! Answer as completely as possible
  - Acknowledge issues/gaps they exist in all programs
  - Where possible support written responses with discussions with the DD team
  - Consider impact of missing information on the risk assessment
- IP DD usually done separately

What are Investors focus on

Acquisition

- Size of opportunity
- Location
- Therapeutic Fit
- Commercial Fit
- IP restrictions
- Deal Structure

Co-development

- Size of opportunity
- Location
- Therapeutic Fit
- Commercial Fit
- IP restrictions
- Deal Structure
- Size of acquisition
- Core competencies
- Decision making
- Company Philosophy

Funding

- Return on Investment
  - Milestone
  - Royalty
- Timeframe
- IP restrictions
- Deal Structure
- Strategic competencies
- Core competencies
- Trust

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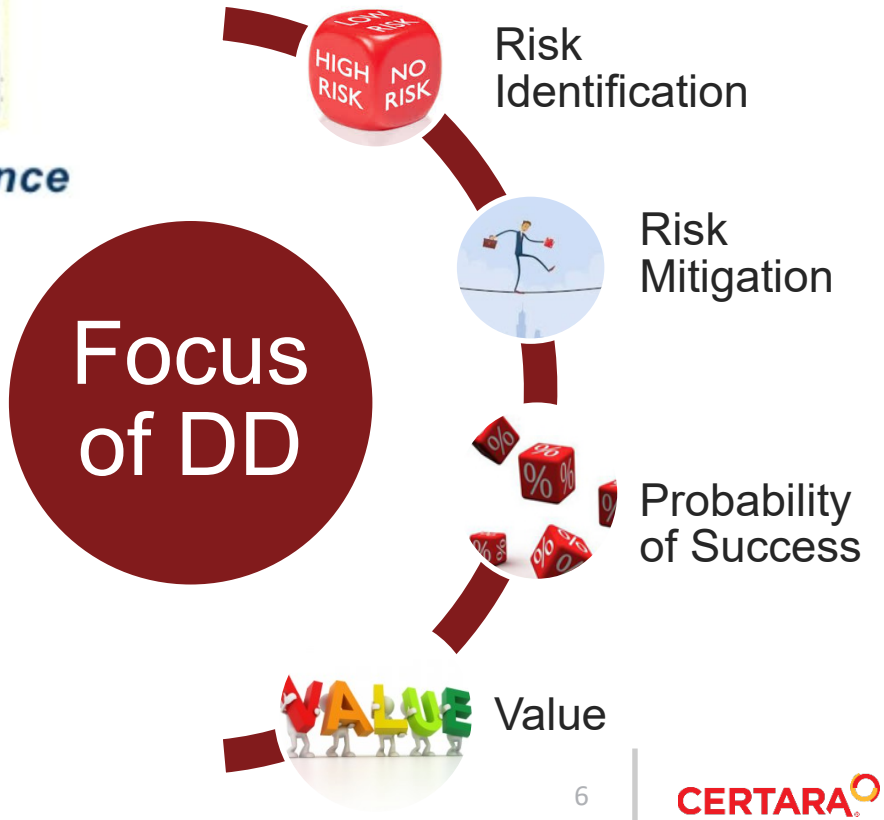
Objective of Due Diligence -

… the objective

… of due diligence

…. In the context of Investment Type and Deal Structure



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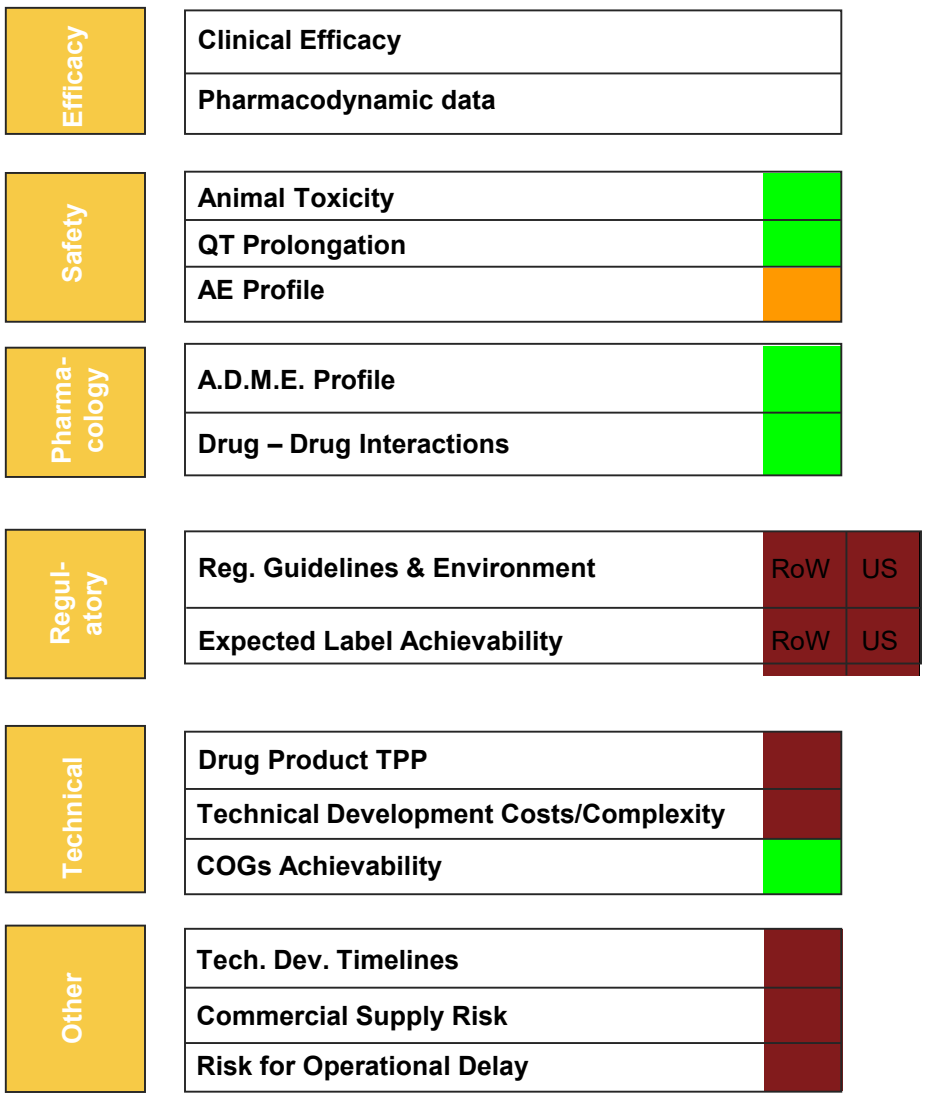
DD Focused on Strategy and Data

- Product Development Strategy
- CMC
- Toxicology
- Non-clinical pharmacology/MOA
- Clinical Pharmacology
- Clinical
- Statistics
- Regulatory
- Commercial
- Forecasting
- IP
- Value & Access

Representation of functional areas is usually tailored to the specific needs of the project



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Product Development Strategy

- Target Product Profile
  - Is the TTP robust and well considered
  - Understanding of therapeutic area
  - Geographical ambitions
- Detailed Development Plan
  - Are timelines realistic
  - Are costs realistic
  - Are stage gated investment decisions included
  - Where do the key risks sit
  - How have key risks been mitigated
  - Will the strategy deliver the TPP/desired label

Product Development Strategy (TPP)

Whoknowz Pharma Ltd	
Target Product Profile – Anti-HCV Assets	
Primary indication	Chronic HCV in adult patients with compensated liver disease; used in combination with current SoC: Peg IFN +/- RBV
Clinical Positioning	1st line therapy in naives and treatment experienced patients
Dosing / Length of therapy	Oral bid/QD **(tid NOT acceptable)** Naïve / Treatment Experienced: ~24 weeks total
Efficacy	Naïve: estimate 80% SVR Treatment Experienced: 50% SVR
Safety	No major safety concerns that cannot be managed. No significant exacerbation of SoC side effects No significant DDI liabilities
Launch (exclusivity)	2016(2027)

- Good Science and medical need are not enough
- A good TPP defines the lowest threshold for success
- Drives commercial forecast

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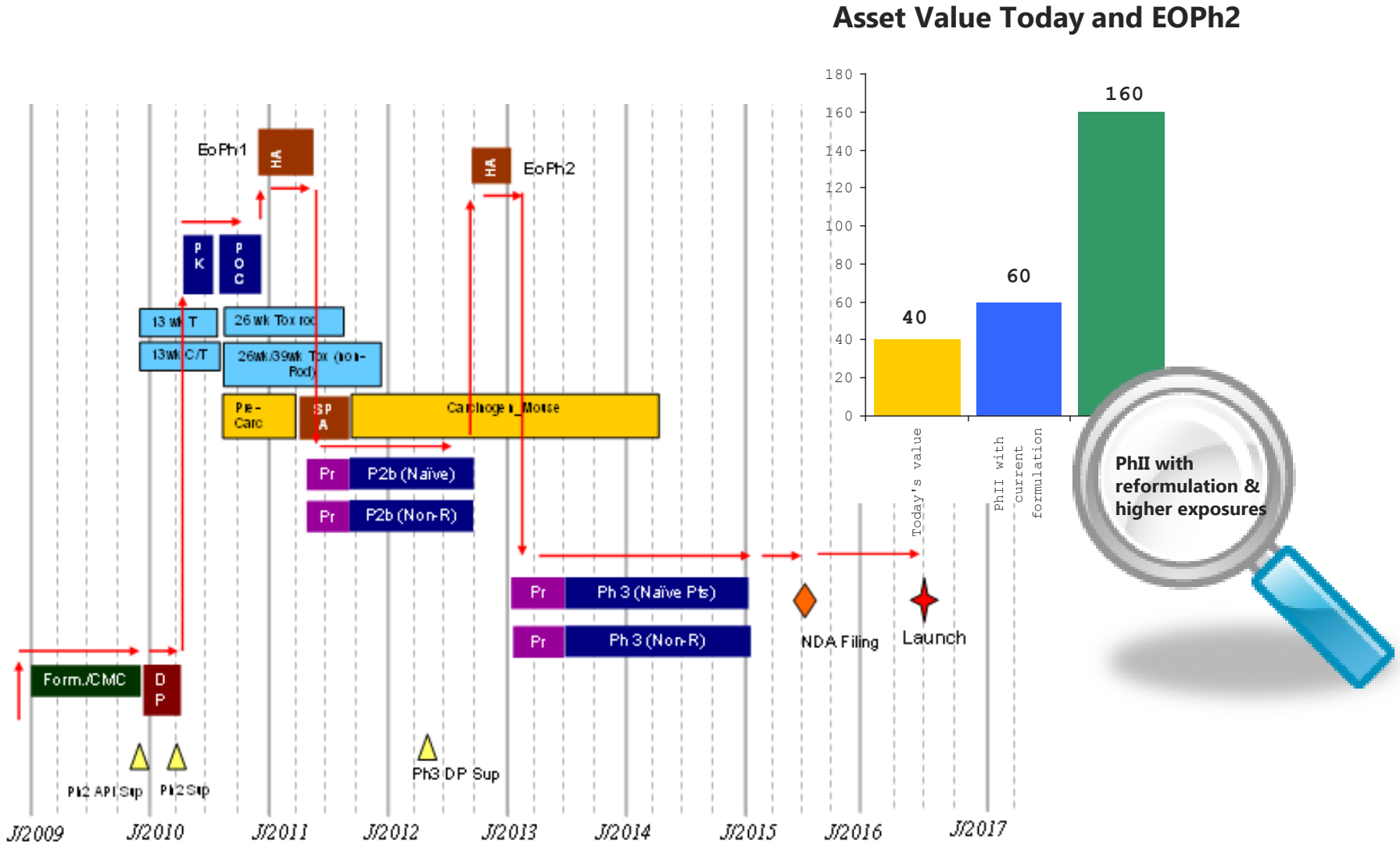
Value focused development



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CMC (Data, Strategy and Risks)

- Drug Substance
  - Physiochemical properties
  - Synthetic route
  - Identification of starting materials
  - Scale and scale-up
  - Impurities
  - Stability
- Drug Product
  - Formulation development
  - Formulation use in non-clinical & clinical settings
  - Scale and scale-up
  - Dissolution
  - Planned pivotal formulation
- Analytical
  - Method development
  - Release specifications
- Commercial Supply
  - Relationship to clinical formulation
  - Planned vendors/scale for commercials supply
  - Locations
  - Audit history
  - Supply agreements
  - COGS

Toxicology and Non-clinical pharmacology

Toxicology

- Correct studies completed to support clinical program
- Sufficient exposure achieved
- Species choice justifiable
- Coverage of expected impurities
- Effects observed and relevance for people

Pharmacology

- Support for MOA and expected clinical benefit
- Quality of pharmacology studies
- Predictively of animal models
- Identification of target concentration
- Identification of biomarkers

Clinical Pharmacology (Data, Strategy and Risks)

- Bioanalysis methods
- Study design & quality
- ADME & PK characteristics
- Physiochemical properties
- DDI strategy
- Formulation and Food effects including bioequivalence
- Dose selection
- Exposure-efficacy and exposure-safety relationships
- Biomarker strategy/personalized medicine approach
- Special patient populations

Clinical and Statistics

- Study design & quality
- Biomarker strategy/personalized medicine approach
  - Patient selection
  - Prediction of likely response
  - Monitor response to treatment
- Design of dose-finding studies
- Design of pivotal studies
  - Patient selection (compared to planned label)
  - Comparator(s)
  - Primary Efficacy End-points
  - Expected treatment effect and sample size
  - Planned geography
  - Ability to deliver TPP
- Efficacy, safety and risk benefit (dose selection), compliance

Regulatory

- Geographical strategy
- What discussions have taken place with RAs?
- What was the outcome?
- What is the onward strategy for interactions
- Are appropriate guidance's being followed?
- Is the maximum access to regulatory advice being pursued?

Commercial & Forecasting

- Geographical strategy
- Epidemiology and therapeutic dynamics
- Competitive pipeline and Differentiation
- Clinical value and prescriber/patient influence
- Pricing approaches and market share
- Cost effectiveness and Market Access
- Assumptions in forecast model

By-products of a Due Diligence Assessment

Finding a level playing field is important

- Trust
- Integrity
- Core Competencies
- Risk awareness
- Risk Management

Due diligence is not just about data, it's about you!

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Why Investors decided not to!

20 DD Assessments over a period of 2 years

Diverse TAs
Over-active Bladder
Diabetes
Atopic Dermatitis
Infectious Diseases
Oncology
Schizophrenia
Multiple Sclerosis
Muscle Diseases

Type of Program
NCE's (Phase 2/3)
Line Extensions
Complex Generics

Modality
Small Molecules
Biologics
Cell Therapies
Vaccines

Type of Deal
Milestone
Milestone & Royalty
Portfolio
Acquisition
Risk Sharing
Portfolio based

3 Projects went to deal completion

Why Investors decided not to!

- Negative Risk-Benefit
- No Differentiation
- Unlikely to achieve TPP

- Dose selection
- No Differentiation
- CMC lagging

- Negative Risk - benefit
- Commercial case not supported
- Unlikely to achieve TPP

- Key clinical data not available
- CMC strategy not defined
- No differentiation to competitors

- Wrong molecule

- Didn't follow regulatory advice
- Commercial and market access issues
- Differentiation unclear

- CMC too little too late
- Disconnect between development plans and commercial ambition
- Didn't follow regulatory advice
- Unlikely to achieve TPP

- Unlikely to achieve TPP
- Didn't follow regulatory advice
- Negative risk- benefit
- Companion diagnostic strategy lagging
- Commercial case ambitious

- Companion diagnostic strategy too late
- Access to originator data
- Inadequate filing package
- Didn't follow regulatory advice

- Unlikely to achieve TPP
- Negative risk benefit
- Formulation not acceptable
- High risk mechanism

- Scientific support for mechanism disputed

TPP
Differentiation
Commercial

CMC

Dose

Diagnostic

Did not follow advice

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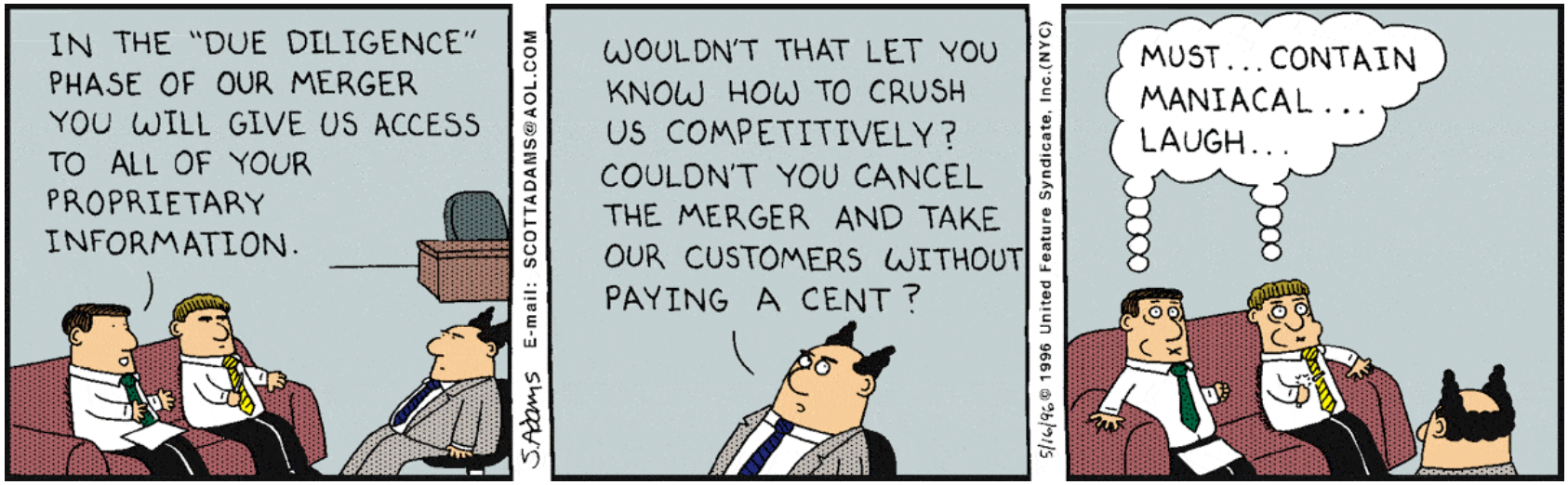
To Finish….

- DD is not done without serious intent
- Can give you considerable strategic input
- Conveys more information than just data
- Many issues identified in DD are preventable



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Back-up slides

Examples of Data which may be requested

Discovery

- All reports of any pharmacology studies undertaken

Toxicology

- Status and findings of reproductive toxicology studies
- hERG testing
- Plans for carcinogenicity testing
- Records of discussions with regulatory authorities

Chemical Pharmaceutical Development

- Synthetic Pathways
- Structural Elucidation
  - NMR
  - Mass Spec
  - UV-Visible Spectroscopy
- Physicochemical Characterization
  - Ionization constant
  - Polymorphism
  - Crystal Habit
  - Solubility Profile

Clinical R&D

- Copies of all clinical protocols including amendments
- Clinical Study Reports
- Clinical Data Reports
- Clinical Development Plans
- Case report forms should be available or retrievable for review
- Minutes from advisory boards or expert panels

Examples of Data which may be requested

Compliance/QA

- Organization charts of company
- Table of contents of relevant SOPs
- Service agreements with CROs
- Results of Regulatory Inspections

Regulatory Affairs

- All regulatory documents, including IND, CTX, NDA/MAA components
- Draft or proposed labeling
- Monitoring Reports
- Audit reports

Manufacturing

- Location of Manufacturing sites
- Supply agreements
- Process flow diagram
- Batch Records
- Critical Processing Parameters
- Batch Yield
- Cycle Time
- Scale up experience